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ABSTRACT

A pilot study of handicapped students and the Scholastic Aptitude Test (SAT) was designed to assess the concerns of handicapped students about the SAT, to identify problems specific to certain disabilities or common across disabilities, to alert the College Board and Educational Testing Service (ETS) about the findings, and to make recommendations for future work. The "handicapped" studied were not a homogeneous group: type of disability, severity and duration of the handicap, age at onset, progression of the disability, and the individual's adaptation all varied. One handicap, however, was common across many disabilities: the attitude of the public toward the handicapped. Almost half of the students had been tested in standard administration of the SAT, many because they were unaware of the availability of special administrations. Several problems with the SAT itself were identified, such as the answer sheet for those with visual impairment or the vocabulary level for deaf students. The recommendations made are designed to close the communication gap between ETS, handicapped students, counselors, and test administrators; develop a database for validity and reliability research for handicapped students; and solve some of the time and space problems through modularization of standardized tests. (Author/BW)

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Handicapped Students and the SAT

Marjorie Ragosta

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EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY
BERKELEY, CALIFORNIA

Handicapped Students and the SAT

Final Report

Marjorie Ragosta

This report is based upon research supported by the College Entrance Examination Board. Researchers are encouraged to express freely their professional judgment in the conduct of such projects; therefore, points of view or opinions stated do not necessarily represent official College Board position or policy.

Educational Testing Service

Princeton, New Jersey

July 1980

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Chapter I

Introduction

The project described in this report was designed as a pilot study of handicapped students and the SAT. Its purpose was ambitious: to assess the concerns of handicapped students about standardized testing in general and the SATs in particular, to identify problems specific to certain disabilities or common across disabilities, to alert the College Board and ETS about the findings, and to make suggestions or recommendations for future work.

The project was activated in March, 1979 and was funded in two phases. Phase 1 consisted of a literature search, a telephone survey of educational institutions, and the development and field-testing of instruments for the major data collection activities. Phase 2 involved interviewing students and administrators in 6 major institutions where large populations of handicapped students were in attendance. These activities of the project are described in Chapter II.

One of the first things to become apparent was that "the handicapped" did not hold together as a group. Even among students with the same disability (e.g., blindness), factors such as the severity and duration of the handicap, the age at onset, the progression of the disability, and the individual's adaptation combined to create a wide range of handicapping conditions. One pervasive handicap, however, was common with students across many disabilities: the attitude of the public toward the handicapped. An overview of the disabilities and handicaps encountered in the study is given in Chapter III.

A major focus of the study was on the conditions under which handicapped students took the SATs. Surprisingly, almost half of the

handicapped students had been tested in standard administrations of the SAT, rather than in a special administration. For some students this was a deliberate choice but for most it was lack of awareness of alternatives. They simply did not know about the possibility of a special administration. Additionally handicapped students reported some interpersonal problems between themselves and others in the testing situation. This was not generally true, but it was reported more often than one would like to hear. Finally, many handicapped students reported on time and space restrictions which they felt were an additional handicap. A review of the handicapped-students' opinions on the conditions of testing is given in Chapter IV.

Disabled students were also asked about the SAT itself. Several areas of concern became apparent. For students with visual impairment and for students with motor impairment of the upper extremeties, the answer sheet posed great difficulty. Within the test itself, there were specific concerns related to specific handicaps. The Braille and cassette version, for instance, contained questions involving graphs or tabular presentations of data which were reported not to translate well into Braille or onto tape. The vocabulary level of the SATs appeared to confound many deaf students. For most students taking the SATs in a non-standard administration, the discussion of score interpretation was a sore point. A review of handicapped-students' opinions on the SAT are given in Chapter V.

The nature of the data collected in this study and the size of the sample precluded the use of statistical analysis. The data reported in Chapters IV and V are largely anecdotal. An attempt has been made to

organize and report as accurately as possible those things which most influenced the perceptions of the author, but also to include all major comments made by students for transmission to ETS and the College Board.

This study concludes with a number of suggestions and specific recommendations based on the information obtained. Related to the problems discussed under the conditions of testing (Chapter IV) are recommendations designed to (1) close the communications gap among ETS, the handicapped students and their families, and counselors or test administrators, (2) develop an information system which would lead to a better understanding of testing conditions and provide a data base for validity and reliability research for handicapped students, and (3) solve some of the time and space problems through modularization of standardized tests. Related to the problems concerning the SAT itself (Chapter V), are considerations designed to help (1) provide an inexpensive alternative answer sheet for use by the visually handicapped or mobility impaired, (2) point out the need for item analyses, reliability and validity studies within sub-populations of the handicapped, and (3) provide better feedback for score interpretation. To coordinate the total range of activities surrounding the handicapped, a recommendation is made that a person be appointed with overall responsibility for the handicapped. These recommendations together with suggestions for further research are contained in Chapter VI.

Chapter II

Activities of the Project

Phase 1 of the study involved a literature search, a telephone survey, the development and field-testing of interview forms, and the production of an interim report including a revised research design for Phase 2. Phase 2 involved site visits to several educational institutions. An overview of the schedule of activities is given in Figure 1. The remainder of this chapter will be divided into four sections covering the three major activities of Phase 1 and the data collection actitivies of Phase 2.

The Literature Review

Purpose and Scope

Initially, a search was made for studies dealing specifically with testing environments, to learn whether adaptations had been made that proved practical, beneficial and psychometrically sound for handicapped students in the test-taking situation. The investigation sought studies both of differential procedures effective with specific handicaps and of general methods useful in coping with common problems in administering tests to the handicapped.

Since this limited quest proved mainly futile, the search was extended to cover educational and vocational tests, both group and individual, in both practical and theoretical contexts, as they applied to handicapped students or workers. The expectation was that parts of studies might have produced findings pertinent to the problem of testing environments.

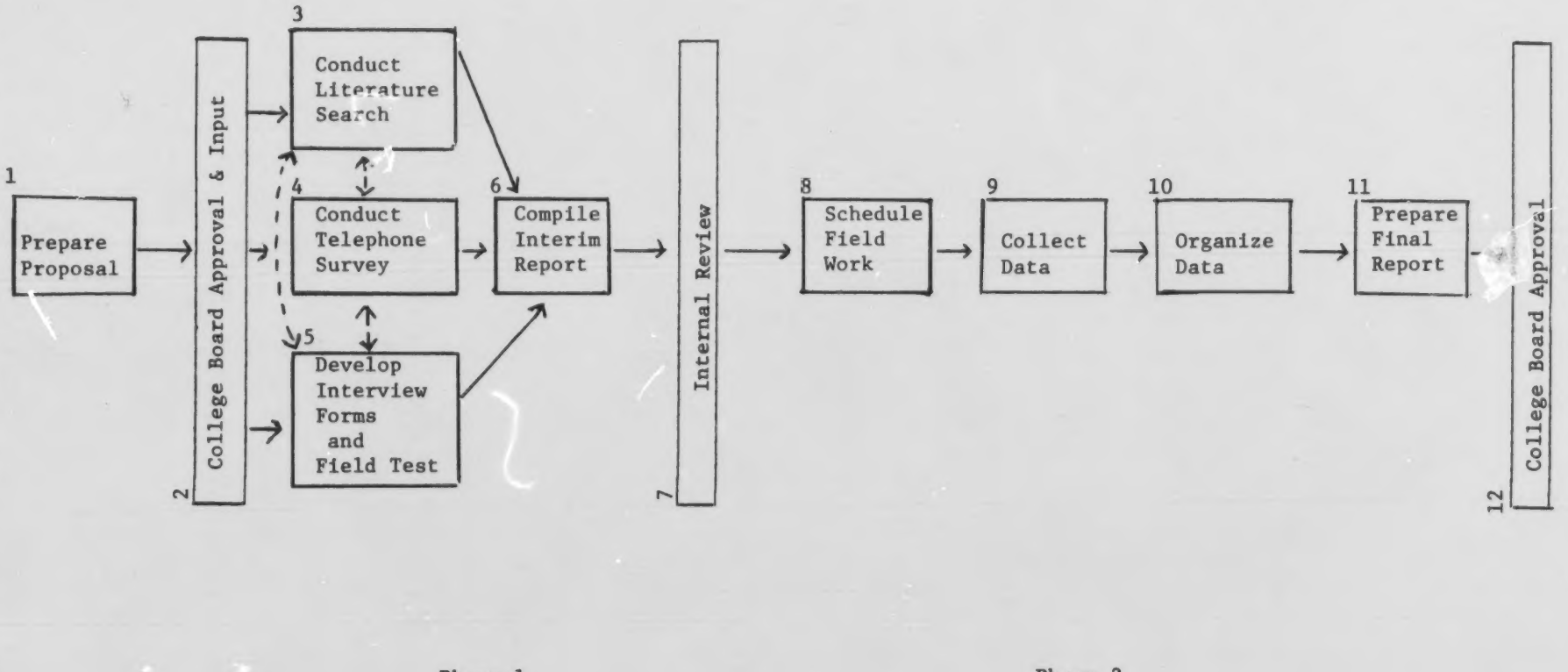

Figure 1. Schedule of activities.

This search therefore also involved inspecting test manuals of instruments developed especially for the handicapped or adapted for their use. The expectation was that these manuals would comment on techniques found suitable for the test administration--i.e., special communication methods, test materials, practice tests, rest periods, audiovisual devices, the use of amanuenses and interpreters, etc.

Process

Computer searches of ERIC and of Psychological Abstracts were made for literature produced during the period 1966-1979. Fifty-four usable articles and several books were thus identified, read, and abstracted. The ETS Test Collection was used for the test manuals and bibliographies it shelves. Some telephoning was also carried out in an effort to extend our bibliographic range by consulting scholars and authoritative practitioners in the field of handicapped and "exceptional" children and adults. A listing of articles and books is given in Appendix A.

Results

There is universal acknowledgement of the problems encountered in administering tests to the handicapped under the same highly controlled conditions required with non-handicapped test takers. We found, however, little serious research on how to provide uniform testing conditions for either group or individual testing of the handicapped. On the other hand, there is a considerable literature of practical advice on how to carry out testing without excessive distortions of the purposes of the tests and without inflicting injustices or humiliations or mental and

physical pain on handicapped test takers. Nevertheless, we found little scientific information on the difference in results coming from any one method or combination of methods of test application.

The literature also universally acknowledges the absence of tests devised for the distinctive psychological environments of the separate handicaps or normed for the unique life experiences of the handicapped. Since so few tests exist that have been developed specifically for use with the handicapped and since the bulk of tests used with this population are adaptations of tests normed on the nonhandicapped, it is distressing to learn that there is not yet much information on the effects on the measurement of such modification of standardized tests.

Probably the soundest work now being done is that of the achievement testing and related research carried on by the Office of Demographic Studies at Gallaudet College and the vocational testing devised and reported by Margaret Backman (now at the College Board) and her former colleagues at the ICD Rehabilitation and Research Center.

The Telephone Survey

The initial plan for the telephone survey included calling at least one educational institution in each of the 48 states (omitting Hawaii and Alaska). In more populated states such as New York and California three calls were contemplated: one to a large university, one to a 4-year institution, and one to a 2-year institution. The selection of the schools to be surveyed was based on the largest populations of handicapped students reported by educational institutions from each state in the College Guide for Students with Disabilities.

It quickly became clear that (1) admissions officers did not generally know much about handicapped students, (2) the answers we were seeking were not generally available from any one source--if they were available at all, and (3) the numbers of handicapped students reported in the College Guide for Students with Disabilities were generally overestimated.

A revised telephone interview form was prepared which allowed us to record the names and phone numbers of the several persons we would interview and which clustered the questions such that they could be answered by several kinds of persons. A copy of the Telephone Interview Form: Admissions Personnel is given in Appendix B. Quite typically, questions on admissions requirements were handled by admissions officers. Questions on the number of handicapped students were referred to the nurse, the counselor or testing personnel in smaller schools or to a person in charge of handicapped students in larger institutions. Questions about validity studies were referred to the research personnel, or to the testing staff if any referral at all was made.

Since there was a need for several telephone contacts at each institution, the number of institutions to be contacted was reduced. From the College Guide for Students with Disabilities only those institutions were selected which reported the largest numbers of handicapped students. Several other institutions were contacted on the basis of recommendation by knowledgeable contacts such as the N. J. Commission for the Blind, Gallaudet College, the Rehabilitation Commission and other sources. Community colleges were not contacted after preliminary work showed that the SAT was not required.

Clearly, the telephone survey became a fishing expedition to locate institutions where follow-up work could best be done. Equally clear was the confused status of handicapped students across the institutions we contacted. Institutions with large populations of handicapped students tended to have somebody in charge of the needs, while institutions without large populations of handicapped students tended to be vague about numbers and needs. Many institutions told of what they planned to do in the future to locate and meet the needs of the handicapped.

Overall, more than thirty institutions were surveyed in 13 states and the District of Columbia. More than 80 phone contacts were made with persons in educational organizations. Table 1 contains an overview of the schools which were contacted and the information which was used for site selection. The rationale for site selection is presented in the description of the activities in Phase 2.

Instrument Development

The literature search and telephone survey described above helped in locating sources of information and acquiring knowledge on the scope of the problem prior to the development of instruments for data collection. Three activities remained: defining areas for study in Phase 2, developing the instruments, and field-testing the student interview forms.

Table 1

An Overview of Information about Educational Institutions Considered for Participation in Phase 2 of the Study

State	Institution	Use of SAT	Handicapped Population: Blind, etc.	Deaf, etc.	Physically Disabled	Learning Disabled	Willing to Cooperate	Participation
Alabama	U. of Alabama	No					-	
California	East LA College	No	x	x	x	x	-	
	Cal. State: Northridge	Yes	x	x	x	?	Yes	Interview site: Phase 2
	San Diego State U.	Yes	x	x	x	x	Yes	Interview site: Phase 2
	Stanford	Yes					No	
Florida	U. of Fla.	Yes					Yes	
Illinois	U. of Illinois	Req.	x	x	x	x	Yes	Interview site: Phase 2
Kentucky	U. of Kentucky	No					-	
Massachusetts	U. of Mass.: Harbor	Yes	x	x	x	x	Yes	Interview site: Phase 2
	Wellesley College	Yes				x	Yes	
	Tufts	Yes					-	
	Curry	Yes				x	-	. Visited in Phase 2
	Brandeis	Yes						
Michigan	U. of Mich.	Req.	x	x	x	x	Yes	
New Jersey	Princeton	Req.					-	
	Rider College	Yes					-	
	Mercer County CC	No					-	
	Middlesex County	No					-	
	Rutgers/Newark	Yes	x	x	x	?	Yes	Phase 1 field-testing site
New York	(Teachers College) (Lexington School for the Deaf)							. Visited in Phase 2
	Syracuse U.	Req.	x	x	x	x	Yes	
	CUNY	No						
	Queens College	No	x	x	x	x	Yes	Phase 1 field-testing site
Ohio	Kingsborough CC					x		
	Cleveland State	No	x	x	x		-	
	U. of Ohio	Req.	x	x	x		Yes	
Oregon	U. of Oregon	Yes					Yes	
Pennsylvania	U. of Penn.	Yes		x	x		Yes	
	CC of Philadelphia	No		x			Yes	
	Temple	Req.	x	x	x	x	Yes	Interview site: Phase 2
Rhode Island	Brown U.	Yes						
Texas	U. of Texas, Austin	Req.	x	x	x	?	Yes	Interview site: Phase 2
Washington,DC	Gallaudet	No		x			Yes	. Visited in Phase 2

Defining Areas of Study

Information gathering generated more questions than it answered. The questions seemed to concentrate around 4 major areas of inquiry: categories of handicapped students, SAT testing conditions, test and item difficulties, and the questions of standardization and validity.

Categories. The following general categories of students were identified for inclusion in the study:

Blind or visually impaired
Deaf or hearing impaired
Mobility impaired
Learning disabled

It was recognized that within any one category there was a wide range of degree of disability and that there were students whose multiple disabilities fell into more than one category. Some disabilities--e.g., cerebral palsy or multiple sclerosis--did not fit easily into one of the 4 categories. Nevertheless it was decided that an attempt would be made at each institution to interview one or more students from each of the 4 categories as well as students with other disabilities. It was deemed important to study whatever handicapping conditions were found in the educational institutions selected for the study. The breadth of exposure assured the broadest base of information upon which to make recommendations for future research.

Testing conditions. The ETS Guidelines for Compliance with the Section 504 Regulation recognize that special editions of tests are appropriate particularly for visually handicapped students and can be produced in Braille, large type, and cassette form. Upon what basis do

visually handicapped students select one form over another? Are those forms suitable for students with other disabilities? Are there other conditions of testing which differentially affect students with specific disabilities?

Test and item difficulties. Do students with differing disabilities have specific problems with the SAT unique to their disabilities? Are certain types of items more difficult for students with specific disabilities.

Standardization and validity. Do most students with handicaps take the SAT in a non-standard administration? What is the effect on students of a non-standard administration? How can one deal with validity with a non-standard administration?

Instrument Development

Amidst the background of the activities already mentioned, two interview forms were developed: the Telephone Interview Form for Admissions Personnel and the Student Interview Form. Both were less than optimally successful on the first try. Problems with the Telephone Interview Form for Admissions Personnel have already been covered. The revised form was successfully used to record the information we felt was necessary to gain background on handicapped students and to help make a selection of schools for (1) field-testing the Student Interview Form and (2) collecting data in Phase 2 of the study. Copies of all forms are in Appendix B.

Field Testing the Student Interview Form

Development of a Student Interview Form was the core of Phase 1 since the data collection activities of Phase 2 were so dependent on it. Two versions of the instrument were field-tested. The first was tried at Rutgers in Newark, N. J.; the revised questionnaire was tried at Queens College in New York. Two modes of interviewing were tried: individual interviews and a group interview.

Individual interviews. This form of data collection provided detailed information from one perspective. For example, one interview was with a young man, almost 22, who was finishing his second year at Queens College. He had been visually handicapped since the age of 7 and was legally blind. He could read large print with difficulty using a magnifying glass or a video-magnifier (60X). In high school there was an itinerant teacher who saw to it that most of his tests were available in large print. Sometimes he had a reader. He took the SAT (and the Regents) in large print versions. He had "time-and-a-half or more; nobody much cared about the time," to complete the SAT. He admitted walking into every test scared--the SAT as well as others. He "always" thought he would go to college; he had had lots of encouragement from his "nice Jewish mother." His SAT scores "were not that good" and in his estimation failed to give reasonable indication of his ability. In his own words, "math was easy enough. Reading comprehension went a lot slower. There's a lot to read and comprehend in reading comprehension. If it's read to me, I miss a lot. Then when there's a lot of questions, a reader has to read the whole passage over and you lose a lot of time.

With vision you can glance to the right place. If I use a magnifying glass or the machine, that goes slowly, too--a word or two at a time. I read words, not phrases, and the place is hard to locate." He entered a community college where the SAT was not required and upon graduation entered Queens. Now he brings his tests to the Office for the Handicapped where the director reads them and writes the answers. "But" he says, "I don't get a chance to cheat like a normal student. In my _____ class lots of people are cheating and getting A or A-. I get B or B-." He mentioned that he would be taking the GREs next semester and hoped he would be getting extra time. How much extra time? "A whole lot," he replied. When I mentioned that everybody wants more time, he thought a bit. "It's hard to say how much more time I need. Different subtests need different amounts. I guess enough extra time depends on the test and the disability. For me it depends on the amount of reading."

Group interview. The group interview allowed for the interaction of ideas and gave students a chance to compare and contrast perceptions. The recording of the interaction, however, slowed down. The group interview was conducted with all the students who happened to be "hanging out" at the Office for the Handicapped at the time. Students in the group included three legally blind students (pigmental degeneracy, severe myopia, and glaucoma), one with cerebral palsy, two others with neurological impairment, and one psychologically handicapped. The interview provoked discussion and interaction among the handicapped students. For example, the three visually handicapped students reported on the types of SAT questions that were especially difficult for persons with their

handicaps: reading passages and abstract math. Reading passages are difficult they all agreed but difficult for different reasons. "They (large type versions) take a long time to read and if you have to reread that takes even more time." "There are lots of questions and to go back and forth takes a long time--finding your place." "Readers cost a lot (not all of which is covered) and they take a lot of time. Oral reading is a lot slower than silent reading, you know." About symbolic or abstract math questions--especially geometry, analytic geometry, and graphs--students with visual handicaps disagreed. One had no difficulty and reported being able to "see patterns in numbers," while others found abstraction more difficult. (Could this be related to severity of blindness?) Listening to the visually handicapped students contradicting one another, one felt they were just like sighted students with a normal distribution of mathematical abilities.

Group interviews of no more than three persons with similar disabilities combined with individual interviews of students with the same or similar disability was proposed for Phase 2. It was hoped that the combination of modes would maximize the opportunities for learning.

Phase 2

The activities of Phase 2 included site selection, scheduling and site visits.

Site Selection

From the educational institutions listed in Table 1 we chose six which, (1) used or required the SAT, (2) had a large varied population of handicapped students or specialize in one type of handicapped student, (3) represented various geographic areas of the United States and, (4) had expressed interest in participating in the study. They included:

Northeast	University of Massachusetts, Harbor Campus, Boston Queens College, New York (Phase 1) Rutgers University, Newark, New Jersey (Phase 1) Temple University, Philadelphia, Pennsylvania
Midwest:	University of Illinois, Urbana
South:	University of Texas, Austin
West:	California State, Northridge San Diego State University

In addition, the following locations were visited:

Teachers College, Columbia. We attended a meeting of Project Resources for the Handicapped and acquired a copy of Disability: Our Challenge.

Gallaudet College: They do not use the SAT but have their own Admissions Testing Program.

Curry College: They have a special program for the learning disabled.

Scheduling

When the selected institutions were contacted, all were willing to cooperate. The interview procedures were explained and a site-visit date was requested. Two copies of the Interview Schedule were sent to each institution. (A copy of the Interview Schedule may be found in Appendix B.) One copy was returned to ETS.

The schedule of site-visits was arranged to minimize costs. The schedule was as follows:

October 4	Teachers College, Columbia, NY
October 10	Gallaudet College, Washington, DC
October 15	University of Massachusetts, Harbor Campus, Boston
October 16	University of Illinois, Champaign
October 18/19	University of Texas, Austin
October 22	California State, Northridge
October 24	San Diego State University
November 27	Curry College, Milton, Massachusetts
November 29	Temple University, Philadelphia, PA

Interviews

Interviews were held and data collected from all available sources within the institutions visited. Any omissions which may have occurred were due to time constraints rather than any lack of cooperation. All institutions expressed interest in continued research efforts on behalf of the handicapped. The information collected during the site-visits is presented in the following chapters.

Chapter III

Disabilities and Handicaps

The purpose of this chapter is to acquaint the reader with some of the students encountered in the study and with some of the disabilities and handicaps those students possess. Major portions of the chapter have been reprinted in single space from materials obtained in visits to Temple University and Teachers College, Columbia University. The material from Temple University describes physical disabilities and offered suggestions or recommendations to faculty members for adapting college coursework to the special needs of the students. Material in the final section of the chapter--from a Distinguished Lecture Series sponsored by the Project for Handicapped College Students, Teachers College, Columbia--differentiates between disabilities and handicaps and describes a handicap which is pervasive across all disabilities.

Disabilities

Blindness

Blindness refers to a total lack of sight, with all other degrees of visual loss considered as visual impairment.

Some teachers may have difficulty in understanding how a blind student can meet all course requirements. However, blindness is one of the easiest disabilities for a person to adjust a life style around. The blind individual most often has a high level of determination to accomplish everyday work that will lead to personal goals. This determination of the blind person is his or her strongest tool, and should be used to help find equitable alternatives where necessary to meet course requirements.

Some general suggestions for teachers of blind students:

1. Make sure that the blind person knows the course requirements.

2. Understand that the blind person may sometimes be late with assignments, especially since certain services from the Library for the Blind or the Reader's Service may be slow in arriving.

3. Permit blind students to tape record all classroom material.

4. Read aloud any material written on a blackboard and spell out all new and unfamiliar words.

5. Make special arrangements for tests and examinations. Examinations should be arranged between the faculty and the student. The student may either answer orally, or may be requested to type answers. Faculty should be aware that it takes more time for a blind student to listen to taped questions and answer them, than it would for a sighted student, under similar conditions.

6. Ensure that blind students obtain their booklists and any other required material as early in the semester as possible.

7. Let the blind person know when faculty enter or leave a room, and describe any other physical activity in the classroom.

8. Permit the blind student to take you by the arm if you walk together.

9. Science courses requiring laboratory work where students must observe visual phenomena present unique problems (biology, chemistry, physics, etc.). Blind students have been successful in such courses when paired with sighted class volunteers. The two students can work out shared responsibilities.

10. Courses with field placement requirements do not usually need special treatment in respect to transportation or location--most blind students would prefer to work in situations similar to their classmates, and not be limited to working with other blind people.

(From the Faculty Handbook for Teaching the Disabled, Temple University)

Fourteen students with visual impairment were interviewed for this study in six educational institutions in Massachusetts, New York, Pennsylvania, Illinois, Texas, and California. The severity of their disabilities ranged from blind in one eye, to legally blind, to totally blind from birth. Some had travel vision; others used a cane or a guide dog. The Braille version of the SAT was used by students blind from birth or early childhood; otherwise most visually impaired students did not read Braille. Some used a reader, some used the large-print version, and some used the regular version of the SAT. Those using the regular SAT were given more time, large diagrams, and/or the use of a typewriter to record answers. None of our respondents reported using the cassette version of the SAT. Only one visually-impaired student - blind in one eye - took the SAT in a standard administration. Another student had taken the SAT before he was blinded.

Interesting information was given us by one young man whose blindness was progressive. He had taken the PSAT and SAT in large print, but hoped to take the GRE with a reader. Another young man was blinded in an accident and reported on his difficulties adjusting to blindness and relying on readers and tape. "It takes me longer to get it read and to write now that I function in another medium than print."

The National Federation for the Blind and the State Commission for the Blind were frequently mentioned by blind students as providing help and support. Perhaps because of the efforts of such organizations, services for the blind appeared to be reasonably well organized in the

institutions in this study with provisions made for Braille textbooks, readers and other services to the visually handicapped.

Deafness

There are varying degrees and classifications of deafness. The deaf person is cut off from the normal means of acquiring and transmitting language. Communication at all levels is affected. Even where a deaf person has learned to speak, his/her speech is usually "odd."

Students who have hearing impairments do not usually have problems with math and science courses since they make use of visual and tactile sense. However, English courses present enormous problems to profoundly deaf persons. The following statement by Dr. J. L. Madachy, Chairman of the English Department of Gallaudet College, best sums up what we may expect from deaf students trying to learn English:

> "You may assure your faculty that the problems faced by deaf individuals trying to learn English are enormous. An analogous situation would be created if you or I tried to learn Russian through written communication only. We also ask these students to learn sufficient English to appear to be native users of the language; for any second language learner, native usage is a lifelong effort."

Because of the serious and complex nature of this problem, in some cases it may be necessary to waive courses for the pre-lingually deaf student. For further interpretation, please contact the Office for the Disabled. Here are some other recommendations:

1. Make sure that you have the deaf person's attention before you speak.
2. Speak slowly and clearly, but without exaggeration or distortion of the lips. Not all deaf persons can lip-read, and even if they can, only about 26% of speech is visible on the lips.
3. Seat the deaf student so that he/she can see you.
4. Where possible, look directly at the person. Also be careful to avoid obscuring your face when you speak.
5. Use pantomime, body language, and gesture as much as possible to enhance the meaning of your words.

6. Use visual aids as much as possible, including the blackboard, prepared outlines for your classes, scripts for movies, etc.

7. Make sure that the deaf student is not left out when vital information is presented. Write out any changes in meeting times, special arrangements, additional instructions.

8. If you are having difficulty getting an idea across, rephrase the thought and restate the sentence, rather than repeating exactly the same sentence.

9. If other students ask questions from the back of the room, repeat them so that the deaf student can "hear" the question too.

10. Some deaf students must rely upon an interpreter to assist in class. If you have an interpreter in class, we make the following suggestions:

    a. look at and direct all communications to the deaf person, not the interpreter;

    b. face the deaf person with the interpreter next to you and slightly behind you;

    c. allow for a time lag in communication; the interpreter is sometimes two or three sentences behind the speaker and may have to use more signs to communicate the message than English words spoken;

    d. do not allow the interpreter to answer for, or to take control of the situation - deaf people are just as able as hearing people to think and express ideas, and

    e. do not engage the interpreter in conversation - restrict communication to the services being provided to the deaf student.

(From the Faculty Handbook for
Teaching the Disabled,
Temple University)

Nine deaf students were interviewed for the study in institutions in Washington, D. C., Pennsylvania, Illinois and California. Six of the

students took standard administrations of the SAT, two had special administrations and one did not take the SAT. One profoundly deaf student who had "done okay" on a standard administration of the SAT was also doing well in college. She was a determined young woman with a goal for her life. She wanted to contact every hospital in her area--and eventually throughout the United States--in a campaign to insist that all babies be tested for hearing at birth. She is determined and "not afraid" to push for the early diagnosis of deafness.

Another profoundly deaf young woman who was the only deaf member of her family was extremely verbal through the use of sign language. She took the SAT in sign language from an interpreter in a non-standard administration. She gave us the single largest number of "bits" of information of all the students we interviewed. She reported, "When I take standardized tests my scores are always low. If people would look at my work--my grades, or notes, or reading--they could judge me better."

Even students with less severe hearing impairment have difficulty. One student, who had mumps at the age of 2 and suffered a moderate hearing loss, was not diagnosed as having a problem until the age of 8 and not fitted with a hearing aid until the age of 16. She took the SAT in a standard administration. "I don't always make a connection between words as they sound and as they are written. Probably my vocabulary suffers as a result. My scores seem to indicate I can't read or write."

A fourth deaf student took the SAT with unlimited time in the verbal portion but standard conditions in mathematics. Additional time is not the solution, however, since the problem is one of understanding. He

explained the difficulties he was having in college even with an interpreter in the classroom. "From the moment when you get confused, it's impossible from then on. It's a three-way problem. If the interpreter doesn't understand what the professor is saying, the (deaf) student surely can't."

Mobility Impaired

Spinal cord injury, cerebral palsy, or any number of problems including temporary problems such as broken bones can result in a person requiring a wheelchair, crutches or special braces. Whenever physical mobility is restricted for one of your students, you may be helpful in the following ways:

1. Alert the guard in the building that a student in your class may require regular help in gaining access to the building.
2. Help the student obtain any special elevator keys necessary.
3. If there is difficulty in carrying, help the student make arrangements to have material brought to him/her.
4. Have other students assist where necessary with doors or moving chairs to accommodate the wheelchair.

The Office for the Disabled may be able to help the student find volunteers. Encourage him/her to ask for such aid.

(From the Faculty Handbook for Teaching the Disabled, Temple University)

Cerebral Palsy

Cerebral Palsy refers to permanent damage to the brain. It results in a variety of disabilities, particularly lack of control of the voluntary muscles, resulting in difficulty in walking, writing, and speaking. A person suffering from cerebral palsy may or may not also suffer from convulsions.

The following suggestions are offered:

1. Persons suffering from cerebral palsy may have great difficulty in expressing themselves, even when they know what they want to say or write, and the faculty should have patience with this.

2. Because of these difficulties, such students may require special examinations.

(From the Faculty Handbook for
Teaching the Disabled, Temple University)

Mobility-impaired is not a true category of disability. Rather it is a category for students characterized by the use of transportation aids such as wheelchairs, crutches, or braces. Logically, canes and guide dogs for the blind are also transportation aids, but the blind are not included. The category of mobility-impaired includes students with a wide range of congenital or adventitious disabilities. Within each of the disabilities there is a range of severity from mild and non-observable forms to extremely severe forms. We interviewed three paraplegics, four quadriplegics, one student with anthro-gryposis, three post-polio students, one with spina bifida, two with muscular dystrophy, three with multiple sclerosis and eleven with cerebral palsy.

One of the most inspiring students was a male quadriplegic with an arm brace and an electric wheelchair. Hurt in an accident the summer before his senior year in high school, he had studied his schoolwork with the help of classmates along with taking physical therapy at the hospital. He returned to high school in time to make up his work and graduate with his class. ("I didn't want to graduate with the juniors.") He immediately prepared for college where he majored in biology. He planned on going to law school and working in the area of environmental law.

The most difficult interview we had was with a lovely young cerebral palsied student. She was in a motorized wheel chair which she operated with her chin. She had a great deal of trouble with communication because her speech was hard to understand and her spastic arm movements made it difficult to decipher the words she was trying to spell from the alphabet chart in front of her. It was a disquieting interview; I felt unequal to the task. Yet when we finally did communicate, her face lit up beautifully and she seemed as pleased as I felt. The interview lasted 50 minutes and was emotionally exhausting. How frustrating it must be to have an intelligent mind trapped in a body that can't communicate well.

Dyslexia

> Dyslexia is the name that has been applied to serious reading difficulty for which there is no obvious cause (such as a vision problem). Persons who are dyslexic experience problems with printed material and generally have difficulty with spelling. The student should be asked to clarify the exact nature of his disability and the degree to which it might interfere with normal requirements of study. Arrangements may have to be made to have textbook material recorded and the student may also need to tape record classroom lectures. In order to qualify for these special considerations, the student must have clinical verification of his disability. Temple's Reading Clinic may be used in this regard.
>
> (From the Faculty Handbook for Teaching the Disabled, Temple University)

Five learning disabled students were formally interviewed for the study. In addition contact was made with 10 or 12 more students in a special program at Curry College in Milton, Massachusetts. Curry uses the WAIS to identify students for admission to the P.A.L. program

(Programs of Assistance in Learning.) Peaks and valleys in the WAIS profile--low Performance and high Verbal scores or high Performance and low Verbal scores or comparable Verbal and Performance scores with low Sequencing and Digit Span--help to identify the learning-disabled. Curry also interviews the student before admission to identify those with severe emotional problems, to obtain a writing sample and to begin planning a program of support.

Handicaps

Handicaps are sometimes differentiated from disabilities as being characteristics of the environment rather than the person. Such handicaps may be physical or psychological: the physical handicaps involve such things as communication and accessibility while the psychological handicaps involve attitudes. While some people with disabilities harbor attitudinal handicaps, all disabled students to some degree are handicapped by the attitudes of other people toward disabilities. These attitudes are explained eloquently by a professor of English at Franklin and Marshall College:

> Now, to be handicapped simply means to be limited, not able to do everything. No human being is able to do everything, so to be human is to be limited. Most people, however, when they first meet me think that I am an oddity, because in addition to the usual set of human incapacities, I cannot see. I am stuck with that, or rather with both of those things. I am stuck both with my blindness and with other people's reaction to it. They are separate things, but combined they make a pretty marvelous mess to deal with. They constitute a rather special degree of limitation or handicap.

I am not about to stand up here and ask you to believe the pious and heroic lie that my blindness has not been, is not now, and will not continue to be a most constant, profound, and infernal nuisance. Because of my blindness I cannot, enjoy the beauty of the world at a distance. I do not know what my wife or my children look like. I cannot as my colleagues regularly do, pick up a book and read it. I cannot gracefully pass the salt to a guest at my dinner table. I consider these serious and very terrible deprivations. What is worse is that they force me into a dependence on other people, and I resent those dependencies; but I have to learn to live with them as gracefully as I can, to accept them, as I must learn to live with the fact that I cannot watch the cardinal feeding its young in the nest just outside our bathroom window. So, my blindness causes me a lot of personal distress.

As annoying as this distress is, it is not comparable to other people's conception of how blindness must limit me. Since I cannot see, they assume that I am either sub or superhuman. Whether sub or super, the result for me is exactly the same. I cannot be communicated with. I am outside the pale. I do not belong.

People separate me from the warm brotherhood of mankind, either by excessive pity or excessive admiration, and by either emotion they show that I am closed out of any possibility of ordinary relationships with them. In Paris, in London, in Sarajevo, in Stockholm, and in Watertown, New York, the waitress says to my companion, "Does he take sugar in his coffee?" If she were to think about it, which she does not (nobody does), she would have to explain that I seem to her like some marvelously trained dog, who has learned how to sit up and eat at the table and drink almost like a person, and can only be communicated with through my trainer. Now, am I angry? Yes. Is my anger a solution or a small step toward solving the problem? No. A joke might be, something or other that would suggest that I actually share lots of feelings with her. Something like, "I like my coffee just exactly the way you like yours, Sweetie." Then maybe she might giggle and go on to say to my master, "Isn't he wonderful?" With the word "wonderful" she has flipped me over from the sub to the super. Which is no progrss for me, but it is at least a change. She has flipped me into that same box, at the other end of the spectrum, into which I am tossed by prospective employers.

I have applied for teaching jobs in every respectable four-year institution in the United States. I send off a description of my background, qualifications, publications, and all that, and the reply comes back with "Dear Mr. Russell, you're obviously just an amazing person. It's incredible what you've done. Yale, Oxford, those fellowships, won an international competition, all those books, those stories, those articles you've written, and all those

years of chairmanship with that big English Department, why, you're just miraculous that's all. Just miraculous, that's all I can say. As to this job, we just don't see how you could possibly manage it, there are people to see, and well, we're just really sorry, we're sure you understand. With cordial admiration" and then the signature. Oh, I understand all right. Angry? Very. Solution? No more than with the waitress. Should I write back to this dean or president and point out the logical contradictions between his praise and his rejection? He is no dummy. He understands the contradictions as well as I do. He just does not want me around, that is all. And he does not because he thinks I am different. That would make him uneasy. Because it would make him and everybody else uneasy, it is more simple just to write me off. So, what might help? What might help is almost always impossible. What might help would be to get him out for a cup of coffee or a drink. Or lunch. To talk. In that talk we might get our ideas colliding, our values engaging each with the other's, and at the end of an hour, maybe two, he might feel, "Yes, while there are differences, they are superficial. But more important, there are basic similarities--concerns that we share, sensibilities and attitudes. Above all, the things that we share are far more important than the differences that appear to separate us."

(From Robert Russell, Liberal Education for the Handicapped in J. P. Hourihan's Disability: Our Challenge)

On the wall of the handicapped students' office at Temple University was a poster obtained from HEW in Canada. A copy of the poster is included as Figure 2. It makes the same point that Robert Russell delineates: our attitudes toward the disabled can be their biggest handicap.

TAKE THIS SIMPLE TEST

TO SEE

WHETHER YOU ARE A HANDICAP TO THE DISABLED

(Try to be as honest with yourself as you can.)

Do you ever feel awkward in the presence of a disabled student?

Do your actions ever indicate to a disabled student that you consider them mentally disabled as well?

Would you or your company employ a disabled person? (How many are on your staff currently?)

Are you unaware of the problems some disabled people have in using public transportation, gaining access to many public buildings or using public conveniences?

Do you ever catch yourself treating disabled persons as less then normal people?

If a disabled person were attending a social gathering would you avoid that person? Would you pay that person extra special attention?

If you honestly answered Yes to one or more of the questions, think about why you did. But, for your own sake, don't feel terribly guilty. Given our backgrounds and our society, it's almost predictable that most of us would not feel totally open and free in our attitudes toward the disabled. But that's not to say we can't change or don't want to change.

OUR ATTITUDE TOWARDS THE DISABLED CAN BE THEIR BIGGEST HANDICAP.

Figure 2. Wall Poster from HEW, Canada

Chapter IV

Handicapped Students and the SAT: The Conditions of Testing

In this chapter and the next comments from students and administrators about the testing of the disabled will be presented. In this chapter the conditions surrounding standardized testing will be covered and in the next chapter the SAT itself will be discussed.

Most comments from students and admnistrators about the conditions of testing seemed to group themselves into three categories: a lack of knowledge of alternatives to a standard administration, interpersonal problems in test administration, and time and space considerations. Sections of this chapter will be devoted to each of the three categories.

Lack of Knowledge of Alternatives

Most of the disabled students interviewed for this project had taken the SATs. A few had been able to avoid taking the SATs by going to a community college and transferring to a 4-year institution. One such student, legally blind and bitter about her educational experience, reported:

> ...I was held in the school of the handicapped for more than eight years and learned little or nothing. They're the main reason I am so far behind now. I was never even allowed to take the SATs because they thought I would fail.

Two other students from hospital schools had taken the SATs and described how important they were to disabled students confined in institutions:

> ...For the handicapped, college is often the only way out of the hospital school. Scores on the SAT or ACT are vitally important because being handicapped means needing college more.

> ...At the school for the disabled we were taught to accept one another and get along -- not to accept one another, get along, and compete. Yet college was the only way out.

Even those disabled students who lived at home referred to the importance of the college admissions tests in their lives:

> ...The only way for a handicapped student to leave home and be on his own is to go away to school. You need good SATs or ACTs.

Surprisingly, many of the disabled students interviewed in this study took the SATs in a standard administration. (See Appendix C for a complete listing of disabled students in standard and non-standard test administrations of the SAT). Almost half of the students in this study had taken the SATs in a standard administration but, of those who did, most felt they would have done better in a non-standard administration. Although some disabled students acknowledged knowing about non-standard administrations but preferring to compete in a standard administration, more often the reverse was true. Many students acknowledged their ignorance of alternatives to a standard test administration although they might have preferred it.

Table 2 presents notes and quotes from disabled students referring to their lack of knowledge of alternatives to a standard administration of the SAT. That the alternatives exist is not a matter of dispute; that their existence is not readily known and understood is a matter of concern. School counselors and test administrators seem to be differentially aware of the needs of the disabled students and the possibilities for adapting the SAT administration to those needs.

Table 2

Lack of Knowledge of Alternatives

Quotes and Notes from Students

S_1	(Wheelchair)	"If I had known I could have taken the test on campus -- given by the director of Handicapped Students Affairs, I would have."
S_2	(Learning Disabled)	"You need to send materials to high schools saying if you have a disability send for materials."
S_3	(Post Polio)	"I would have been more confortable if I could have had somebody to mark my answer sheet. I didn't know that was possible."
S_4	(Legally blind)	"Counselors should be informed of the large-print version."
S_5	(Partially sighted)	"It's not readily known that there are alternate versions."
S_6	(Deaf)	"I took the test with the rest of the class. I didn't know I could ask for more time." (Deaf in one ear; hearing aid in other ear. Reads lips.)
S_7	(Cerebral Palsy)	"I was in a standard administration--I didn't know of any other way. Communicate what's available."
S_8	(Legally blind)	"I should have been able to take the test parts of 2 days. But I didn't know."
S_9	(Cerebral Palsy)	"Increase publicity about non-standard administrations at the high schools. Only if you work hard can you find out about them."

Quotes and Notes from Administrators

A_1	(Commission for the Blind)	Students from urban districts (in Texas) have resource teachers and advisors who are aware of what is available. Away from urban areas, they may not be so knowledgeable.

At Temple University we interviewed the parent of a student with a learning disability. He told us of the difficulty he had had finding out about the possibility of college admission for his son who performed below average academically but was gifted architecturally. The standard administration of the SATs seemed to be an impossible barrier for admission to colleges with good programs in architecture. The possibility of a non-standard administration of the SAT, which he had learned about only the day before the interview, seemed to offer a measure of hope.

The conditions under which the SATs are taken are largely dependent on the test administrator so it is not surprising that many comments we received concerned interpersonal problems in communication between the disabled student and the test administrator.

Interpersonal Problems in Test Administration

Earlier in this report we learned that one overriding handicap faced by the disabled is the attitude of the able-bodied toward people with disabilities. Since this is a cultural phenomenon that is wide-spread in our society, it is not surprising that some evidence of its existence is found between handicapped students and test administrators. Some of these problems are given in Table 3.

It would be wrong to assume that most test administrators present problems to disabled SAT candidates or that most disabled candidates present problems to test administrators. Most test administrators encounter disabled students relatively infrequently and, until recently, only infrequently did handicapped students take the SATs. As more and more disabled students take advantage of the opportunities provided by

Table 3

Interpersonal Problems in Test Administration

Quotes or Notes from Students		
S_1	(Cerebral Palsy)	Student with crutches took standard administration at a catholic school. "The teacher (test admin.) was uncomfortable with my disability. He kept asking me questions like ...did I know what I was there for and did I realize the importance of the test, etc. I felt he was questioning my mental ability."
S_2	(Legally blind)	"People expect us to be whizzes or slow; they assume we can't be normal. They either don't believe in the handicap or they treat you as special and make life too easy. I fought to take SATs. They said there was no large print version! A guidance counselor gave the test to me orally; she was aggravated when I had to ask her to repeat. I would like to have taken the test with somebody who believed I would pass."
S_3	(Blind)	"I took the SAT alone with reader-teacher for 9-1/2 hours. With my type of blindness, after a while my vision blurs and I have to rest. I tried to be meticulous taking the test. I had one break (besides frequent rest periods) and then my teacher accompanied me to the bathroom and back--as though she didn't trust me not to cheat. My brain was scrambled after 9-1/2 hours, and isolation intensifies the interrogation process."
S_4	(Legally deaf)	"A specialist in handicapped students should be in charge of testing."
S_5	(Legally blind)	"My teachers didn't believe I had a problem--or didn't do anything to help. I got all Ds or Fs until my senior year when new laws came into effect. Then my social worker got large point books, magnifying glasses and readers for me. I got all As and Bs except a C in math."

Table 3 - continued

S_6	(Quadriplegic)	"The test administrator was flaky."
S_7	(Legally blind)	"Writers (amanuenses) sometimes inhibit you because they keep waiting for an answer. Tape recorders might be okay."
S_8	(Deaf in 1 ear, hearing aid in other)	"When a test administrator walks around, it is hard to hear what he is saying. I try...then I read directions again. I lose time."
S_9	(Cerebral Palsy)	"Communicate what's available; inform test administrators about conditions for testing the handicapped."
S_{10}	(Moderately deaf)	"Give instructions orally--but clearly, slowly and distinctly. I always have to read them again and and that makes me slower."
S_{11}	(Quadriplegic)	"The test administrator kept coming in to see if I was finished yet."
S_{12}	(Legally blind)	"The testing conditions were unfavorable. There were frequent interruptions and a lot of pressure to finish."
S_{13}	(Cerebral Palsy-severe)	"It would have been easier if there had been nobody there."

Quotes or Notes from Administrators

A_1 The Handicapped Student Advisor told of an MCAT exam where the accessible door was locked, holding up the start of the exam, and during break the accessible bathroom was locked causing additional delay. Test administrators need to be aware of and ready for the possibility of disabled students taking standardized tests. Reaction to disabled students is often hard-line or soft-line; seldom typical, direct, matter-of-fact.

A_2 The most important thing with regard to testing the handicapped is to have a compatible person do the testing. We have one person who is handicapped who can deal candidly with the disabled. "My feelings of inadequacy would make me tense--so I wouldn't be a good examiner. I feel inadequate."

Table 3 - continued

A_3 "Information about giving tests to the handicapped is hard to find. I know it must be buried somewhere."

A_4 "It is important to check on test supervisors periodically--and that is especially true as regards their sensitivity with handicapped candidates. How often has ETS met with its testers?"

A_5 "We need specific guidelines--the same for all tests."

A_6 "Setting up the proper testing environment is important. You must be sensitive to the needs of the disabled and they must be allowed to set breaks according to their own stamina."

A_7 "Two things are especially important for testing the disabled: the determination of an extended length of time for taking the test and setting up the proper testing environment. The test administrator needs to be sensitive to the disabled student. Talk over the situation. Do not test too long at one time."

recent legislation, test adminstrators may gain more awareness of and more experience with disabled students. Even now, many of the handicapped students reported comfortable conditions within the testing situation. "They treated me nicely," were remarks frequently heard by the interviewers. And we heard of many cases where extraordinary effort was made by many people to meet the needs of a handicapped individual.

> . . .Students here must take an English Placement Exam. It was a large hassle but we finally got it put into Braille. It took 3 readers and proofers and much time before the job was done because the nearest sighted brailler lived 45 miles away... We were supposed to return that test but no way! We spent days and nights on it and we don't want it to leave our office.

Along with improved interpersonal relationships, disabled students often mentioned time and space considerations in the testing situation.

Time and Space Considerations

One of the most common aspects of a non-standard SAT administration is the increased time permitted for taking the test. It is hard to disentagle time from the pressure students feel to finish the test and do well. Some of the comments on time made by students and administrators is given in Table 4. Space and other considerations are covered in Table 5.

Time and space considerations fade into one another when one considers the length of the test and the physical capacity of disabled students to measure up. The time for taking the test needs to be interspersed with time to rest. Most able-bodied students are tested between 9 and 12 in the morning. The time is extended for disabled students but this means that less able-bodied students (the handicapped) have to hold up longer under the physically exhausting conditions of the testing situation. Spaces between testing times could help alleviate the problem.

Table 4

Time Considerations

Quotes and Notes from Students

S_1		"Time pressure on the SATs keep a lot of handicapped kids out of college."
S_2	(Legally blind)	"I was read to. She went fast--I didn't have unlimited time."
S_3	(Legally blind)	"I was tested for 9-1/2 hours in 1 day--I should have had parts of 2 days."
S_4	(Legally blind-Nervous cond./ passes out occ.)	"With all that time pressure, I can't think. You shouldn't do that to anyone--not just the handicapped. I need large print and more time."
S_5	(Polio)	"Main problem is speed in writing. Professors give me extra time--2 hours = 2 hours, 45 minutes. I got extra time for SAT and did better than I deserved (690+)."
S_6	(Cerebral Palsy)	"I need double time on math or reading. I did poorly."
S_7	(Severe Cerebral Palsy)	"Time and pressure most difficult. It would have been easier if no one had been there. Speaking personally, time limits are stupid. I need one day for math, one for verbal."
S_8	(Adventitiously blind)	"It takes me longer to get it read and to write now that I function in another medium than print."

Table 4 - continued

Quotes and Notes from Administrators

A_1 "An epileptic student had a seizure under the pressure of the test administration."

A_2 "Reading aloud generally takes twice as long as reading silently."

A_3 "Why timed?! Concept Mastery Test is not timed and it has been used by the Graduate School at Indiana."

A_4 "Testing of the atypical student is more important than the testing of the typical student. Don't give handicapped students the additional handicap of time pressure."

A_5 "Double time is enough time."

A_6 Some mobility impaired students have difficulty with standardized tests because of the length of time they have to sit and the position they have to maintain. They need more resting time.

Table 5

Space and Other Considerations

Quotes and Notes from Students

S_1	(Quadriplegic-with hand splint)	"I need a place to put the papers--a table, so that my wheelchair fits and I have space for papers."
S_2	(Limited use of limbs)	"The size of the test was difficult to work with. How about a loose-leaf book with pockets so people could handle the pages easier? Like one-at-a-time."
S_3	(Post Polio)	"Special tables are needed. Space to work is a real problem."
S_4	(Quadriplegic)	"Could you split tests up into parts?"
S_5	(Visually impaired)	"Florescent lights are difficult for the visually impaired."
S_6	(Spina Bifida)	"Take test alone with more time. Shorten the test. Take test on different days. A special answer sheet would be helpful. You need longer breaks during the test."
S_7	(Cerebral Palsy-medium severity)	"Length of test a difficult factor. When you're slow you see other people completing. You hear pages turning. It's bad for your morale. But one on one can be difficult depending on the person. Sometimes there's a feeling of not being trusted--and that's a downer. Trust is necessary. Special consideration for the disabled is not trying to get an edge on somebody else."
S_8	(Blind)	"It was long. I was really worn out."

Quotes and Notes from Administrators

A_1	No room on campus is suitable for testing.
A_2	"Measurement and Evaluation Department agreed to supply a reader if okayed by ETS for a blind student. It took me (the Director) two hours on the phone with ETS to get approval."

In this chapter we have covered comments by students and administrators about the conditions of testing: the lack of knowledge of alternatives to standard administration, interpersonal problems in the testing situation, and time and space considerations. In the following chapters we shall cover comments relative to the SAT itself.

Chapter V

Handicapped Students and the SAT: The Test Itself

In Chapter 4 the conditions under which disabled students took the SATs were the focus for comments. In this chapter disabled students and administrators speak to the test itself. Three areas of concern are covered: the answer sheet, the SAT's subtests and items, and the test interpretation.

The Answer Sheet

The single most consistent complaint from the visually handicapped and the mobility impaired including those with cerebral palsy was the separate answer sheet. Comments about the answer sheets from students and administrators are presented in Table 6. The physical inability of many students to conform to the requirements of the machine-scannable answer sheet need not present the problem it sometimes has. There are alternatives: some students write or type their answers; others have an amanuensis. An amanuensis, however, may cause a different problem as indicated by student S_{12}. A relatively straight-forward solution was shared with us by administrator A^2 and is presented in Figure 3. The Maglione answer sheet is flexible enough to be adapted by him and others for use in all kinds of standardized testing situations. Even severely spastic students have been able to use the Maglione answer sheet without requiring an amanuensis except to transfer the answers to the official answer sheet. This measure of independence has meant a great deal to handicapped students.

Table 6

The Answer Sheet

Quotes and Notes from Students

S_1	(Polio)	"The answer sheet frustrated me."
S_2	(Learning disabled)	"I brought my typewriter; somebody else transferred scores."
S_3	(Cerebral Palsy)	"Filling in those little spaces is difficult."
S_4	(Legally blind)	"Seeing the spaces on the answer sheet is hard."
S_5	(Legally blind)	"Blue mimeos are difficult; so are those answer sheets."
S_6	(Visually impaired)	"If I had had somebody to mark my answer sheet, I would have been more comfortable."
S_7	(Arthro-gryposis)	"Filling in those little holes was very hard. How about punching out holes--like a ballot? Making the mark really dark was difficult."
S_8	(Visually impaired)	"Those little circles are hard to see. I'd like to mark my own test not the answer sheet."
S_9	(Cerebral Palsy-medium)	"One mark is better than filling in circles."
S_{10}	(Quadriplegic with hand splint)	"I'd rather bubble in the answers myself than have someone do it for me; I'd feel they were judging me."
S_{11}	(Cerebral Palsy-severe)	"The answer sheet was impossible. I wrote the answers."
S_{12}	(Quadriplegic)	"Math is difficult for me. It's the ability to write [that is the heart of the problem.] When you talk the answers the whole test-taking situation is different. If you don't know the answer right away you think the amanuensis thinks you're a jerk."
S_{13}	(Cerebral Palsy)	"The scantron with parallel lines is easier to use than the bubbles."

Table 6 - continued

Quotes and Notes from Students

S_{14}	(Cerebral Palsy)	"If boxes (on answer sheet) were larger, that would be a big help. Bigger pencils would help too. I'd like to take it alone with a large answer sheet." (Severely disabled cerebral palsied student who cannot fill in bubbles.)

Quotes and Notes from Administrators

A_1 Answer sheet is difficult--not used by legally blind.

A_2 Appended as Figure 7 is a copy of the Maglione answer sheet for disabled students: a legal size sheet of paper with space for 10 answers to be marked. It is especially suitable for cerebral palsied or visually handicapped students or those who have difficulty with answer sheets.

"We mark this general answer sheet to correspond to the test, then transfer the answers to the regular answer sheet after the testing is over."

Fill out top To Correspond To Test Questions / Fill out SIDES to correspond to #'s of Questions	TRUE OR 1 OR A	FALSE 2 B	X 3 C	X 4 D	X 5 X
# 1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Figure 3. Maglione Answer Sheet

Besides the answer sheets, disabled students mentioned problems related to the subtests and items of the SAT.

The SAT: Subtests and Items

Broader even than comments on the subtests and items of the SAT were comments from some handicapped students about the relevance of the SAT itself.

> ...Students who are handicapped from birth have a different frame of reference because of lack of exposure to "normal situations."

* * *

> ...Handicapped students often do not get a chance to socialize like others or gain experiences like others. So perhaps the test questions are less relevant.

* * *

However most handicapped students recognized the need for the SAT. In a conversation two male students--one with cerebral palsy, the other a quadriplegic--discussed college entrance exams:

> (Cerebral Palsy) ...Do we <u>have</u> to measure up to somebody else's standards? We fight with ourselves everyday to perform.

* * *

> (Quadriplegic) ...But tests have to be standardized. It's got to be the same for everybody. But you need to be able to adapt them for people with disabilities so the disability doesn't affect the scores.

Comments from students and administrators about the SAT, its subtests and items, are presented in Table 7. Additional materials, concerned solely with the relevance of standardized tests for the profoundly deaf, are contained in Appendix D. Questions of the relevance of the SAT for specific groups of handicapped students are related to questions of validity and/or the norming of tests for specific populations of handicapped students. From the perspective of some students - and administrations - it comes down to the question of test interpretation.

Table 7

The SAT: Subtests and Items

Quotes and Notes from Students

S_1	(Dyslexia)	"Vocabulary subtest: "My auditory recognition of words is better than my visual--the medium is better for me. I'd do better on vocabulary if I heard the word spoken."
S_2	(Hearing Impaired)	"Vocabulary is hard...and Reading Comprehension."
S_3	(Learning Disabled/ Dyslexia)	"I have better recall orally. Cassette plus written material would help. I couldn't finish reading comprehension. You should separate speed of reading and reading comprehension."
S_4	(Blind)	"I need the raised line drawing kit for math--it should be mandatory." I did better than I expected." "I had to get into law school without the LSAT."
S_5	(Cerebral Palsy)	"I need to hear words and see vocabulary."
S_6	(Profoundly deaf)	"When I take standardized tests my scores are always low. Many of the questions are ambiguous to me. Multiple choice answers are difficult for me because some sentences/answers were very similar. True-false questions are hard because of the language difficulty. I never learned how to answer tricky questions. When people look at my work, they can judge me better. ETS should become aware of deaf people's language level and the problems it can create before giving them a test. I would like to have an interpreter with me because sometimes I don't understand the question."
S_7	(Moderately deaf)	"I don't always make connection between words as sounds and words as written. Probably my vocabulary suffers."
S_8	(Blind)	"It is important to have instructor there for the braille test in math. There are different ways of writing math in braille. Sometimes I couldn't read the problem (in braille) and needed an instructor who could refer to the printed copy."
S_9	(Quadriplegic)	"Test forms are mighty crammed. It's easy for me to get confused under pressure compared to when I was normal."

Table 7 - continued

S_{10}	(Legally blind)	"Math is most difficult. The print isn't large enough and the contrast is a problem."

Quotes and Notes from Administrators

A_1 "Certain kinds of test items are very difficult for blind (or visually handicapped) students because they require the student to hold a number of choices in mind while making a decision. These difficult items include long matching questions and questions of the form-- a and b but not c and d, etc. Questions involving diagrams, graphs or pictures can be very difficult. If understanding graphs is a necessary part of course work, we suggest working with a raised line drawing kit available in the Disabled Student Center."

A_2 "To explain a chart or graph to a blind person is a traumatic experience. We can provide good support services but we can't overcome inappropriate test format."

A_3 "In the cassette version, the mathematics test is appalling--simply awful. It has to be simplified."

Test Interpretation

For many of the disabled students we talked to, the only benefit to taking the SAT was fulfilling the requirements for college admission. But for some students that was not enough. They wanted to measure themselves in terms of everybody else. They wanted to assure themselves that they measured up to others. For those students the score report did not help. Their comments appear in Table 8.

Table 8

Test Interpretation

Quotes and Notes from Students

S_1	(Hearing impaired)	"I wasn't really sure how to interpret the SAT. I felt really good about the ACT but the SAT gave such a funny interpretation, I couldn't tell a thing."
S_2	(Legally blind)	The National Federation for the Blind at its last meeting recommended for standardized testing: (1) triformation braille system (25,000 braille terminal with braille printout) (2) standards for live readers (3) accurate scoring (objection to disclaimer)
S_3	(Cerebral Palsy)	The candidate was very bitter. ..."Why take a test when the results can't be interpreted?"

Quotes and Notes from Administrators

A_1	"You're an outfit that makes money. You're not concerned with strange cases. You want to avoid extra cost. Students pay money, take tests and then get a disclaimer. They'd be better off not taking them." (He displayed a copy of a disclaimer more than 10 years old!)
A_2	"There is no value to students now. Taking the SAT is a useless rite. Collect data in categories...ask proctors the right questions. You'll get the data you need for interpretation."

Chapter VI

Considerations and Recommendations

After interviewing students who have made it into college despite disabilities and handicaps, after talking with knowledgeable people about specific disabilities (e.g., deafness, dyslexia, etc.), and after talking with administrators of special programs for the handicapped, it is easy to think of many ways in which standardized testing might be adapted to meet the needs of disabled students more adequately. But a caution is in order. The concerns set forth in this chapter are one-sided; they are offered as suggestions/recommendations from a field perspective without the benefit of review from those responsible for test administration, test security, test reliability and validity, score reporting and the whole host of issues and procedures surrounding any testing program. The suggestions follow from comments reported in earlier chapters and are arranged in three major sections: the conditions of testing, the test itself, and further considerations/recommendations.

The SAT Administration: Conditions of Testing

Although the College Board and ETS have done much to meet the needs of the disabled regarding standardized testing, there appear to be several areas for concern. There appears to be a communications gap in the information links among ETS, counselors, parents, students, and test administrators. Conditions of test administrations have sometimes been less than satisfactory for the needs of the disabled and the needs of a testing organization; that problem might be able to be solved by systemization. And time and space considerations with regard to the testing of the disabled have not yet been faced squarely.

The Communication Gap

Somebody in the field made mention of a humanistic development of standardized testing, implying that students needed to develop healthy attitudes toward testing from good information and from good experiences with standardized tests. That goal is laudable for all students, but for the handicapped it is especially necessary. Parents, counselors, students and test administrators all need to work from the same information base to provide optimal testing conditions for disabled students. There are three considerations I would put forth.

Information to students. Information about college admissions for handicapped students could be provided to students either through the high school counselors or, more directly, through the mail. Public service advertising might even be used to make the public aware of the existence of the materials for the handicapped. The special materials might contain:

(1) Specific information about the alternatives to the standard administration of the SAT, e.g.

Alternative versions of the SAT:
- braille
- cassette
- large type
- standard, with reader, etc.

Alternative modes of response:
- standard answer sheet
- alternate answer sheet
- amanuensis
- type responses:
  - braille
  - regular type
  - write response, etc.

Alternatives related to time and space:
- accessibility
- extended time
- more than 1 sitting table to work at
- adequate rest periods, etc.

Alternative locations:
- regular high school
- college campus
- test centers in each state which specialize in test administrations for the handicapped, etc.

(2) Forthright information on the consequences of a non-standard administration (validity, score reporting, etc.).

(3) Information from disabled students who have made it into college about the difficulties and rewards of the admissions procedures.

(4) A checklist of "dos and don'ts" and a telephone number for further information.

Information from students. I would consider an (optional) disability awareness form requesting information on the student's disability, its severity and duration, and any special considerations which may be necessary to accommodate to the disability. The law states that it is not necessary to provide information about disabilities to the college but many colleges say they have the need to know in order to provide the proper support services. The advantages and disadvantages of providing such information might be stated clearly and then the student could make his own decision about sending the information to colleges along with scores. Meantime ETS needs information about disabilities and their severity in order to do validity studies or to norm tests on specific populations. The disability awareness form could be part of the registration procedure for a special administration but it would remain the student's decision whether or not that information would be forwarded to colleges.

Information for counselors and/or test administrators. All of us need to become more sensitized to the problems of the handicapped but counselors and test administrators are in an especially important position.

From students we heard about persons who were insensitive and others who were too sensitive. From test administrators we heard statements about their own deficiencies and feelings of discomfort with the handicapped. It would help to get information out in the open not only with regard to alternatives in testing the disabled but also with regard to attitudes. Facts about the physical and emotional (supportive) needs of the handicapped should also be available.

All of the materials discussed thus far are initial steps in developing a system or set of procedures that would optimize the students' chances of good testing conditions and ETS's chances of providing the best services to its clients--both students and institutions.

Development of a system. From a field perspective the present system has done a lot to provide disabled students with the testing conditions which allow them to compete for college admission. Some of the communications gap might be plugged by materials suggested in the previous section, but other gaps could be plugged by a comprehensive set of procedures. The goal of such a system would be to assure the best possible testing conditions for handicapped students consistent with the requirements of standardized testing. Procedures in such a system might include the following:

1. Make use of the materials described in the previous section to alert handicapped students, counselors, test administrators and others of the system for non-standard test administrations for the disabled.

2. Assure that the handicapped student and the test administrator have had a pretest interview before the day(s) of testing, and that they

have discussed needs and options. If necessary the pretest interview might be done by phone but a personal interview might be preferable in order to assure that no surprises occur on the day(s) of testing. The interview might cover such topics as accessibility, time and space considerations, lighting, seating, rest periods, etc.

3. Record the information obtained from registration and/or the pretest interview and/or the disability awareness form mentioned earlier on machine-scannable forms so that all data relevant for norming or validity studies of disabled students can be quickly stored and retrieved.

4. Provide students with postcards to mail back to ETS after a test administration has been completed. The postcard could provide feedback information on the conditions of testing: whether or not they were satisfactory, why, and how they might have been improved. Without feedback from disabled students it would be difficult to improve the system for them. The feedback might also help ETS to identify test centers within each state which might specialize in testing the handicapped.

5. Provide the test administrator with a machine-scannable form for recording the conditions of testing. The form might indicate which alternatives the student had selected from among those offered, start and stop times for each of the subtests, the category of disability together with information necessary for norming, validity studies, or research on the handicapped.

Time and space considerations. Systematizing non-standard administrations of the SAT should result in less confusion about testing conditions

for the handicapped and, therefore, a more uniform approach to the testing situation. On the other hand, the disabled individual may present a unique set of requirements and, therefore, the need for a more flexible approach to testing. This combination of needs--the need for a more flexible test administration for the disabled combined with the need to systematize test administration for the purpose of validation research leads one to suggest the modularization of the SATs for handicapped students.

Modularization might mean splitting the SAT into two sections--verbal and mathematical--or it might mean offering the SAT in subtests. Time and space considerations suggest that modularization would be a decided advantage to certain groups of the disabled such as the partially sighted, the cerebral-palsied, and those with mobility impairment of the upper extremeties. It would allow test administrations spanning two mornings (or more) without problems of subtest security. It would allow for lunch breaks or breaks where students could rest or leave the premises between subtest administrations. It would allow maximum flexibility while assuring the security of items in later parts of the test. Disabled students would not have to stretch their physical endurance beyond that required of their able-bodied counterparts.

The SAT Administration: The Test Itself

The preceding pages of this chapter have been concerned with improvements in the conditions of testing handicapped students. The following section is concerned with the SAT itself and covers three areas of concern: the answer sheet; the test, subtests, and items; and score reporting.

The Answer Sheet

Many handicapped students have difficulty with the standard answer sheet. The totally blind cannot use them and the partially sighted have difficulty; cerebral palsied students with spastic arm movements cannot use them and those with impairment of the upper extremeties have great difficulty. An amanuensis is one solution. Handicapped students may write or type responses to be transferred to the standard answer sheet. In one location in the field the Magliore answer sheet has proven over the years to be a practical alternative. It seems a simple solution to a problem which has bothered many disabled students. Perhaps it could become one of the alternatives in the systematic approach to testing the handicapped.

The Test, Subtests, and Items

Disabled students and administrators have reported testing difficulties with the SAT differentially for specific disabilities:

The blind or visually impaired. Blind students are glad of the existence of a braille version of the SAT. In fact we heard more complaints from blind students about the testing programs which do not have a braille version than we heard about problems with the braille version of the SAT. We did hear, however, of the trauma of not understanding the question because of its complexity. If such complex questions are really necessary for the braille version of the SAT, then we recommend they be placed at the end of each subtest. Graphs, for example, may include a page of instructions, a page with an overall description of the problem, two pages of graphs, and one or two pages of questions about the graphs.

A question that is 5 or 6 pages long, requiring the blind person to move forward and back across several pages to locate information which, all too often, is in a format the blind person has never encountered, is quite likely to cause great test anxiety, inhibit the student's performance for the rest of the test, or cause the student to break down in utter frustration. For the sighted it is easy to skip problems that look complicated and get back to them if time allows. To the person reading braille the only option is to keep trying to understand the problem. The example cited here was a real one although it was not an example from the SAT. We heard about complicated mathematics problems often enough to begin to feel the frustration felt by the blind. One girl said, "that's the reason I could never go back to school: I could not subject myself to the punishment of taking that kind of test ever again." If those questions are considered necessary (are they?), at least put them at the end of the subtest.

The cassette version of the SAT contains many of the same problems with regard to mathematics that the braille version does. The same recommendation applies. For further thought, let me raise a few questions. Are item-level responses for the braille version of the SAT accessible? Has an item analysis been done of the responses on braille versions of the SAT? Is it feasible? What about the cassette version? Have we seriously addressed the problems of reliability in braille versions of the SAT? Do we have plans for validity studies? Are we considering norming the SATs on the blind population?

<u>The deaf or hearing impaired</u>. Is the SAT an appropriate admissions test for the profoundly deaf? From the information we acquired in the

field, we doubt it. Our attitudes changed from the naive--"well as long as there is an interpreter to give the instructions in sign language and a system to cue the deaf about time constraints, the deaf ought to be able to manage in a standard administration"--to a more informed doubt about the appropriateness of the SAT for the population of students for whom language acquisition was so different than from the general population. Again, we need to be able to look closely at the data to answer many of our questions. Systematic data collection and analysis can provide us with the answers we need. There is a relatively good data base in a college with a fairly large population of deaf students and students with other disabilities. Cal State, Northridge and Gallaudet both have indicated a willingness to work with us on validity studies on the profoundly deaf. Meantime, are we keeping deaf students out of college because of low scores on admissions tests which are inappropriate? The thought makes me a little uncomfortable.

The mobility impaired. This group of students contains subgroups with various handicaps and wide-ranging levels of disability. For some paraplegics, for instance, accessibility seemed to be the only issue. If they could get to a standard administration, and get to the bathroom during the break, that was enough. For quadriplegics and the more severe cases of cerebral palsy, on the other hand, many more difficulties arose. Most of those difficulties could be overcome with better communication, the development of a system for flexible non-standard administrations, and development of a better data base to answer questions about reliability, validity and norms.

The learning disabled. Apparently many learning disabled students can improve their academic skills and their academic performance when allowed to hear what they are reading along with seeing it. Both modalities may be required simultaneously for optimal performance. The use of the cassette version of the SAT together with the standard printed copy appeared to many of those we interviewed to be appropriate for students with learning disabilities. We suggest that this option be one of the alternatives clearly stated in information to students and test administrators. The need for some documentation of the learning disability at the time of registration seemed to be appropriate to students with the handicap.

Score Reporting

The need for norms for students with disabilities is apparent to many of the disabled students and college administrators with whom we talked. The anti-testing chairman of the Health Sciences Department at one of the universities said:

> ETS could provide more information about testing - the philosophy, the purpose and the process. I think the PR is necessary. And the lack of norms for handicapped students is a real problem.

Statistical problems of restricted range or small sample size are of little concern in the field. We have "all the data there are" on handicapped students and we have been testing the handicapped for years. It is up to us, they feel, to practice our statistical magic - or whatever - and come up with the answer on how disabled students are performing. The complexity of that assignment does not preclude the expectation of its accomplishment nor the feeling of immediate need for the information.

The suggestions already made for systematizing non-standard test administration procedures will help to assure a data base capable of answering some of the questions raised by students and institutions about the performance of handicapped students.

Further Considerations/Recommendations

In the final section of this chapter, we go a step further than suggestions to the College Board and ETS regarding the SAT, although that, of course, is the main thrust. This section covers two main topics: a recommendation that ETS and the testing programs set up an umbrella office at ETS to handle all testing of the handicapped and specific suggestions for follow-up work on the handicapped and the SAT.

The Recommendation

I will phrase the recommendation in its broadest application first, then tailor it to fit College Board concerns. The recommendation is to establish an umbrella office at ETS to handle all testing of the disabled. This is not to say that all testing programs would have to present uniform services - although that might certainly be a goal toward which to strive. Rather it would mean that some small group at ETS would know about <u>all</u> the testing programs and the alternatives to standard test administrations which might be available to disabled students. Such an office could serve as a central <u>resource</u> for all disabled students.

The responsibilities of such an office might include the following:

(1) to serve as a central storehouse of information on the handicapped and, especially, of knowledge about the problems/solutions surrounding the testing of the disabled.

(2) to improve the flow of communication about alternatives in standardized testing, the conditions of testing, and other issues in order that we might improve our products and services.

(3) to systematically build a data base capable of answering many of the questions raised in the wake of legislation for the handicapped.

(4) to develop a program of research on the handicapped cutting across all programs.

A less ambitious program - though not by much - might reduce the number of testing programs involved in the office for the handicapped to testing programs associated with the College Board.

An increasing number of students with disabilities should be moving into colleges and universities in the wake of new legislation. An office for the handicapped could work toward increasing the numbers of handicapped students tested in uniform but flexible test administrations. The market for modularized versions of the PSAT and SAT in special school settings might make such versions cost-effective. More importantly, it is educationally appropriate for ETS and the College Board to work together with disabled persons and educational institutions to provide the best service of which we are capable.

Specific Suggestions for Follow-Up Work

1. Begin as soon as possible the development of a system for the collection and retention of that data which is specific to handicapped students and necessary for validity or norming studies. Develop machine scannable forms which will make the data readily accessible.

Consolidate the data on the handicapped students and the special administration with the test scores of the students in order to develop a good data base on the handicapped.

2. Assess the data already collected on handicapped students. Forms which indicate the version of test used--braille, large type, cassette, or regular--and the number of minutes allowed for each subtest have never been keypunched. Some have been sent to records retention; forms for 1979 may still be available. They should be keypunched and corresponding test scores should be retrieved. The data base from that endeavor would provide a quick indication of the distribution of scores associated with different versions of the test, would be helpful in the development of the new data base for disabled students, and might be helpful in determining future programs of research on the handicapped.

3. Assess the information already in existence regarding the use of the SAT for profoundly deaf students. From what we have learned at Gallaudet and California State, Northridge, people who ought to know don't believe the SAT is valid for profoundly deaf students and do believe that SAT scores for the profoundly deaf are not a good indication of college-level ability. If the SAT, the GRE, or other ETS tests are biased against the profoundly deaf, we should recommend they not be used. The Gallaudet Admissions Testing Program makes heavy use of the Coop Battery along with other tests. Their data base is extensive. There might be a possibility for ETS to work with the Director of Admissions at Gallaudet to work out a college admissions testing program for the profoundly deaf. I would advise following up on that possibility.

4. Follow up on the possibility of doing validity studies in conjunction with some of the colleges and universities which have expressed interest. Some of them already have good data bases on students with specific disabilities such as the hearing impaired. Many universities have indicated they would be pleased to work with us on further research on the handicapped. Cal. State, Northridge is interested in participation with ETS on validity studies involving the deaf and possibly other handicapping conditions. A data base on the learning disabled as well as able-bodied students could be made available to us through Gertrude Webb at Curry College, who is an excellent resource person for information on the learning disabled. We recommend following up on that lead.

5. The present study was involved with handicapped students who had made it. They were functioning in the college setting when we talked to them. That may be only the tip of the iceberg. How many disabled are afraid to take the SATs, discouraged from taking the SATs, or prevented from taking the SATs? Do disabled pre-college students differ in their attitudes and experiences with the PSATs and SATs according to whether they attend private schools, hospital schools, schools for students with specific disabilities, or the local high school either in special education or main-streamed into the regular program? We have heard from the successful SAT candidates in this study. A future study might focus on the group for whom the test is a current consideration.

Appendix A

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Appendix B

Forms

TELEPHONE INTERVIEW FORM: ADMISSIONS PERSONNEL

INSTITUTION: _____ PHONE: _____

_____

NAME: _____ Phone: _____

TITLE: _____

NAME: _____ Phone: _____

TITLE: _____

NAME: _____ Phone: _____

TITLE: _____

NAME: _____ Phone: _____

TITLE: _____

Numbers of Handicapped: Total: _____

Blind: _____ Deaf: _____ Physically Disabled: _____ Learning Disabled: _____

Admissions

What part (if any) does the SAT play in admissions requirements for students with disabilities? (Blind, deaf, physically disabled, learning disabled, etc.)

Do you use a different range of acceptable scores for handicapped students?

What adjustments have been made in the admissions procedures?

_____

_____

_____

_____

_____

_____

_____

Is there anybody else I should talk to about handicapped students?

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May 7, 1979

TELEPHONE INTERVIEW FORM: ADMISSIONS PERSONNEL (2)

Interview Request: Numbers right? _____

What adjustments have had to be made as a result of admitting handicapped students?

_____

_____

_____

Do you have a system available whereby handicapped students might be contacted for interviews? _____ (System?)

_____

_____

_____

Would you be willing to have ETS personnel make a visit to talk with you further and interview handicapped students about he SAT? _____

_____

_____

_____

_____

_____

Do you have anybody at your institution who might be concerned with a validity study of the SAT or who might administer ability tests to handicapped students?

_____

Have you made any study to determine the relationship of SAT scores to college performance for handicapped students?

_____

_____

STUDENT INTERVIEW FORM

1. Disability/Severity/Date of Handicap

2. What difficulties in school result from your handicap? What adjustments were made in high school?

3. When did you first think of going to college? From whom did you get encouragement? Did you worry about college admission?

4. What test(s) did you take? Under what conditions? Were you comfortable with the testing conditions?

5. Do you think the test gave a reasonable indication of your ability? Was the test understandable? Were certain types of questions especially difficult for somebody with your handicap?

6. Now that you are in college, what adjustments have been made for your disability?...With regard to testing?

Open Interview Form on Testing

Name _____

Location _____

Background _____

Information

over ....

For non-standard administrations of standardized tests:

1. Can you describe the affective conditions of testing or the physical effects of testing on handicapped students?

2. Do you feel the test results would be comparable to a standard administration for non-handicapped students?

3. Do you think students are able to demonstrate their maximum capabilities under the test-taking conditions?

4. Does the form of the test and the condition of test-taking match the student's disability?

5. Do you have any suggestions for improvement of the forms of the test or the test-taking conditions for students with specific handicaps?

INTERVIEW SCHEDULE DATE OF VISIT: _____

SCHOOL: _____ PHONE: _____

_____

_____ AM to _____ AM Introductory Meeting

Name: _____ Bldg: _____

Room: _____

_____ M to _____ M Research Person

Name: _____ Bldg: _____

Room: _____

_____ M to _____ M Testing Person

Name: _____ Bldg: _____

Room: _____

STUDENT INTERVIEWS		M. Ragosta		G. Wilson	
		Bldg: _____		Bldg: _____	
		Room: _____		Room: _____	
_____ M to _____ M	1.	_____	1.	_____	
		_____		_____	
	2.	_____	2.	_____	
		_____		_____	
	3.	_____	3.	_____	
_____ M to _____ M	1.	_____	1.	_____	
		_____		_____	
	2.	_____	2.	_____	
		_____		_____	
	3.	_____	3.	_____	
		_____		_____	
_____ M to _____ M	1.	_____	1.	_____	
		_____		_____	
	2.	_____	2.	_____	
		_____		_____	
	3.	_____	3.	_____	

OVER .....

M. Ragosta

Bldg: _____

Room: _____

G. Wilson

Bldg: _____

Room: _____

_____ PM to _____ PM	1.	_____	1.	_____
	2.	_____	2.	_____
	3.	_____	3.	_____
_____ PM to _____ PM	1.	_____	1.	_____
	2.	_____		_____
	3.	_____	3.	_____
_____ PM to _____ PM	1.	_____	1.	_____
	2.	_____	2.	_____
	3.	_____	3.	_____
_____ PM to _____ PM	1.	_____	1.	_____
	2.	_____	2.	_____
	3.	_____	3.	_____

Please return one (1) copy to: Ms. Gina Wilson - Room T-186
Educational Testing Service
Princeton, N.J. 08541

Phone: (609) 921-9000, Ext. 2624

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Appendix C

Disabled Students in Standard & Non-Standard Administrations

Disabled Students in Standard & Non-Standard Administrations

Standard		Non-Standard	
. (Cerebral Palsy/ crutches)	"I took it with the able-bodied."	.(Polio)	"I took it at U. Mass: Disabled Student Center."
. (Wheelchair)	"I did okay--but they were not pleasant conditions.	.(Legally blind)	"Mostly read to her. Librarian typed numbers in large print."
. (Congenital paralysis/ paraplegic wheelchair)	"I took the standard administration with other handicapped students from my school. No extra time."	.(Cerebral Palsy)	"Sunday morning 9-12 with poor scores. Numbers low."
		.(Legally blind)	"I was tested over a period of 9-1/2 hours with bathroom break." (Reader)
. (Limited use of limbs)	"I took the test in a gym. I needed more time or a writer." (Did poorly; went to a community college.)	.(Legally blind)	"I bought a typewriter. Answer sheet frustrated me."
. (Paraplegic- no use of lower limbs)	"I just needed access. But I was exhausted when it was over."	.(Learning disabled)	"ETS' responsibility to assess how the disability affects test scores. I brought a typewriter.
. (Hearing impaired)	"I took the SAT and the ACT. I did better on the ACT."	.(Polio)	"I requested and received more time. I'm assertive and ask for what I need." (Went to private school for the handicapped.) "Made me look better than I deserved."
. (Dyslexia)	"I took the ACTs and SATs to show my ability to learn. I performed better on the SAT. It was the standard administration. I didn't know of any other way."	.(Dyslexia)	"I took large-type and had extra time. Tapes may have helped."
. (Muscular Dystrophy)	"Standard. It was difficult sitting for a long time but I was able to do it. My CPA and SAT scores were low but the Handicapped Office facilitated my admission anyway."	.(Legally blind)	"I had a special administration of the large print version with extra time. I was comfortable."

Disabled Students in Standard & Non-Standard Administrations - cont'd

Standard		Non-Standard	
. (Multiple Sclerosis and blind 1 eye)	"I knew I could have had more time but I wanted to take the standard exam. I didn't have enough time though. I really didn't know much about getting into college. I'm 27 and had been working as a secretary before my M.S. episodes."	. (Legally blind)	"I had a special administration of the large print version with extra time. I was comfortable."
. (Moderate hearing impairment)	"I took it a couple of times--in a standard administration. The vocabulary part is awful."	. (Deaf)	"I had unlimited time in verbal portion of the SAT but the math was time."
. (Dyslexia)	"It was not understandable--like take a guess! The Reading Comprehension was hard. Math was the pits. I'm scared to death to ever take another standardized test."	. (Blind)	"Braille version. The graphs were awful. The English was fine."
. (Muscular Dystrophy/ birth)	"I took exam with 300 others. Time pressure was terrible."	. (Cerebral Palsy - most severe case--almost unintelligible)	"I had unlimited time. I have trouble I can't write" - (and she couldn't speak clearly either)
. (Profoundly deaf since birth)	"I didn't know there was any other way to take the test." (At college she uses a notetaker and a translator)	. (Cerebral Palsy-severe)	"I took the SAT last January--after I had been admitted to college and 22 years after I left high school. I was alone and somebody wrote my answers. It was a comfortable situation. They were very nice to me."
. (Spina Bifida)	"I was in the handicapped program in high school but was mainstreamed. I didn't know about special administrations of the SAT. I did poorly because of time."	. (Profoundly deaf)	"I had an interpreter and took the test alone."
. (Cerebral Palsy)	"I had a standard administration. Conditions were like a cattle car. I did okay."	. (Quadriplegic)	"I took the SATs in a standard administration; then a special administration. Special was better."
. (Cerebral Palsy-medium severity)	"Took the SAT and ACT. It hurt me a lot on the English part. I didn't know I could have a special administration." (Had been in a handicapped class but was integrated in high school. Gets extra time in college.)	. (Cerebral Palsy)	"I took the large print version of the SAT in a special administration. I felt pressured--but I came back the second morning on my own."
		. (Quadriplegic)	"I took the SAT in the Handicapped Students Affairs office. I had more time because it takes longer to talk the answers."
		. (Cerebral Palsy)	"I took ACT with large print with extra time. Took SAT--regular print, extra time. I did better on the ACT."

Standard		Non-Standard	
. (Cerebral Palsy-- mild)	"I took SAT in a standard administration. I didn't know any better. I guess I like being judged with everybody else." (Gets extra time in college but less chance to cheat.)	. (Quadriplegic/ spinal injury)	"Took PSAT with class. Took SAT alone with unlimited time." (Has hand splint)
. (Spinal muscular atrophy- wheelchair)	"The SATs were exhausting. Two sessions would have been better. Fatigue is a problem as well as accessibility. The SATs in the basement were a problem. I had a bit of difficulty getting there."	. (Blind)	"I took SAT in the braille version in a small room in the high school library. I was really worn out." (PSAT/ACT/SAT)
		. (Peripheral vision only)	"I took the PSAT and SAT large print versions with frequent interruptions and pressure to finish."
. (Moderate hearing loss)	"I have had a hearing loss since I had mumps at age 2. But we didn't know about it until I was 8 and I didn't get hearing aids until age 16. I would have taken the SATs with more time had I known. My scores implied I couldn't read or write."	. (Blind after accident)	"I took SAT before accident in a standard administration. I just took GRE with a reader in a in a conference room. I took 6 hours and needed all of it."
. (Cerebral Palsy- mild)	"I was pressured for time but I did okay."		
. (Paraplegic)	"All I need is access."	. (Cerebral Palsy- birth; severe)	"I took the SAT in a separate room with somebody else to mark answers. I did poorly. I did better on the ACT. The ACT tests concepts better; the SAT is practical and more difficult."

Appendix D

Information on the Deaf

Gallaudet Admissions Fall 1979

This year a total of 1480 students enrolled. Last year 1503 enrolled.

Undergraduate Admissions

A total of 1076 applied for admission in 1979.

- This is 92 less than in 1978, a decrease of about 8%.

Of this number 515 or 48% were accepted for admission.

- This is 55 less than in 1978 and represents a decrease of 1% in the rate of acceptance. This includes 41 students who were accepted last year as juniors on the basis of the Gallaudet Junior Diagnostic Test and most of whom enrolled this year after successfully completing their senior year in high school. They constitute 8% of those accepted.

Of those admitted, most were accepted on the basis of the Gallaudet Entrance Examination. A few (12) were admitted on the basis of high scores on the SAT or ACT. A total of 136 applied from other colleges (last year it was 151). Of this number 77 were accepted and 51 enrolled. Most of these are from colleges with special programs for the deaf including 13 from NTID.

A total of 282 students enrolled, 56% of those accepted for regular undergraduate admission.* In addition 14 special hearing students have registered for one semester or more. [Fifteen more hearing students have enrolled in the Associate of Arts Program in Interpreting.] New undergraduate enrollment totalled 311, a drop from last year's 358.**

Of those enrolling, 191 (68%) entered the preparatory program; 91 (32%) received Freshman or advanced placement.

- 41% enrolled as Freshmen in 1978.***

Of the total enrolled, 135 are male and 147 are female.

Residential schools account for 158 (56%) with 124 (44%) coming from public high schools and other colleges.

- In 1978, 54% were from residential schools; in 1977, 57%; in 1976, 60%; in 1975, 63% and in 1974, 67%.

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* Last year 59% of accepted students enrolled.

** The following statistics cover only new deaf undergraduates.

*** The decrease this year is largely attributable to the change in English placement test requirements.

Twenty-eight percent (25) of those going into the freshman class were from residential schools.

- In 1978 it was 32%; in 1977, 27%; in 1976, 32% and in 1975, 35%.

Thirteen percent of the entering students have one or more deaf parents (19% in 1977 and 15% in 1978). Seventy-nine percent of these students attended residential schools. Ten of the entering students indicated an additional handicapping condition as compared with 19 last year.

The median age of the students entering this year is 19 as it was last year. Five of this year's entrants were over 30.

Geographical Distribution

Northeastern States	57	20%
Southeastern States	36	13%
North Central States	81	29%
South Central States	23	8%
Western States	43	15%
Foreign - Canada	27	10%
Other Foreign	15	5%

States individually contributing 5% of the class or more are California 11%; Illinois, 6%; and New York, 6%.

No students entered this year from Alaska, Delaware, Nevada, New Hampshire, New Mexico, Oklahoma and Wyoming.

Of the 28 Canadian students accepted, 27 enrolled. Fifteen of the students accepted from other countries were able to come: 2 each from India, South Africa and Sweden and one each from Australia, Bermuda, England, Ethiopia, Holland, Hong Kong, Japan, Kenya, and Nigeria.

Hearing Loss

Sixty-four percent of the entering class have a hearing loss of greater than 90 decibels ISO, and 27 percent have a loss of from 90 to 70 decibels. The remaining 9 percent have losses below 69 decibels.

- The corresponding figures in 1978 were 52% in the 90+ range, 33% in the 90-70 range and 15% in the lesser loss area. Thus it would seem that a greater proportion of students with severe hearing losses have enrolled this year.

Most of the students are early onset cases. Ninety-three were born deaf or became deaf before school age.

APPENDIX A - Comparative Information Over A Period of Years

The following table shows for the past 5 years the mean entrance examination scores on tests with national norms of those admitted and those not admitted. (The norms are percentiles; for 9th grade in algebra and science, 12th grade for other tests.)

	1975**		1976**		1977		1978		1979	
	Adm. N=300	Rej. N=311	Adm. N=314	Rej. N=309	Adm. N=428	Rej. N=520	Adm. N=361	Rej. N=525	Adm. N=345	Rej. N=520
Coop Reading Voc	17	4	15	4	14	4	14	4	14	4
Coop Reading Level	24	7	20	5	20	5	20	5	19	4
Coop Reading Speed	40*	17*	33*	11*	33*	11*	33*	11*	32*	11*
Coop Science	35	13	36	9	35	8	35	9	35	12
Coop Algebra	34	8	34	8	33	8	32	7	32	7
Cattell N-V IQ	109	99	107	96	109	97	107	96	109	97

* Increased time limits

** These numbers are from the February testing. Those who took the examination at a later make-up session are not included.

Hearing Loss and Age of Onset

Median Loss In Decibels (Better Ear Average) ISO and Age of Onset

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Better Ear Avg.	95	94	98	95	94	93	92	92	95	91	92	93	95

Age of Onset — Median Age of Onset since 1967: Birth

Appendix B - Admitted Students Who Did Not Matriculate

Two hundred and nineteen or 44% of those granted admission failed to matriculate.

- In 1978 the comparable figure was 41%; in 1977 it was 43%; in 1976 it wa; 44% and in 1975 it was 41%.

In terms of audiological information, this group does not differ significantly from the group entering Gallaudet. The median age of onset is birth for both groups. The median better ear average is 94 db compared to 95 for Gallaudet.

Sixty-seven percent (147) of those who did not enroll are from residential schools; the corresponding figure for those who did enroll is 158 (56%).

The median age for those who did not enroll is 20; for Gallaudet entrants it is 19. Fifty-two percent of the enrolled group and 50% of the non-matriculating groups were female.

We have partial information about what individuals have decided to do instead of attending Gallaudet.

- Thirty-six percent (79) matriculated at NTID. (It was 27% in 1978; 35% in 1977; 38% in 1976; and 37% for the previous two years.)

- Twenty percent (44) have informed us of their intention to attend other post-secondary institutions. These consist of 33 different colleges, most with special programs for the deaf.

Twenty-one percent so notified us in 1978; 29% in 1977; 30% in 1976; and 17% in 1975.

- Seven percent (15) have gone to work. Thirteen percent went to work in 1978; 9% in 1977; 11% in 1976; and 16% in 1975.

The remainder (81 or 37%) are continuing in high school or have not informed us of their plans.

NTID Enrollees

The 79 students enrolling in NTID have scores considerably lower than those enrolling at Gallaudet on most language tests and higher performances in math.

The median age of onset for the NTID group is birth and the median better ear average is 96 db.

Seventy-five percent of the NTID students come from residential schools (compared with 56% of the Gallaudet group).

The NTID group has a median age of 20. Thirty-seven percent are female compared to 52% of the Gallaudet group and 60% of the other college group.

Geographical distribution for the NTID group differs somewhat from previous years. As before there is a marked preponderance from the Northeast as compared to Gallaudet (39% to 24%). However, this year a substantial number enrolled from the West (18% compared to last year's 8%) and the South Central States (14% compared to last year's 6%).

In summary, the NTID group compared to the Gallaudet group continues to be:

- weaker in language
- stronger in mathematics
- considerably more likely to come from residential schools
- more likely to be male

Enrollees at Other Colleges

Tne 44 students enrolling in other colleges have somewhat higher scores in all language tests and substantially lower scores in mathematics than those enrolling at Gallaudet.

The median age of onset for this group is birth and the better ear average is 94 dt.

Sixty-six percent of this group came from residential schools (compared with 56% of the Gallaudet students and 75% of the NTID enrollees).

The other college group has a median age of 20. Sixty percent of this group are female compared to 52% enrolling at Gallaudet and 37% of the NTID group.

As to geographical distribution, this group has a larger proportion from the West (34% to 18%) than Gallaudet and a smaller proportion from the Northeast (11% to 24%) and Southeast (5% to 15%)*

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* Excluding Gallaudet's foreign students.

Graduate Admissions

This year 278 graduates enrolled, 191 as full-time students (4 of whom are international intern students), 29 part-time students and 58 special non-degree graduate students. This is 2 fewer than last year.

A total of 338 applied for regular graduate admission; 144 or 43% were accepted. Seventy-four applicants were hearing impaired; 39 or 53% were accepted.

Last year 403 applied and 169 or 42% were accepted. One hundred fourteen applicants were hearing impaired; 57 or 50% were accepted.

Of the 220 degree students enrolling this year, 103 were new graduate students, including 31 deaf.

The breakdown by department is as follows:

	Applied	Accepted	Enrolled	Male	Female	Deaf
Audiology	25	12	6	1	5	0
Counseling	88	38	31	9	22	8
Education	175	72	50	8	42	12
Psychology	28	14	10	3	7	5
Business Admin.	9	7	5	2	3	5
Ph.D.	13	1	1	1		1
Total	338	144	103	24	79	31

May 1967 report:

The average verbal SAT score of students accepted at Gallaudet was 276.

Average scores of Gallaudet students have declined in recent years. Incompletion rate is about 50% - comparable with other colleges. Graduates work in a variety of academic settings. About 1/3 go on to graduate school.

ADMISSIONS

Admissions Policy

Gallaudet College selects for admission any deaf applicant who shows evidence of academic ability and motivation.

Rationale and Procedures

Individuals who have a severe hearing loss from an early age suffer a life-long communication problem. This is not, however, the most serious consequence of their disability. Their primary impairment is rather in the area of language development. The early onset deaf must develop language artificially--even the concept of language must be learned. The vocabulary, grammar and sentence structure that the hearing child absorbs naturally from his environment has to be laboriously acquired by the deaf. It can be asserted that no individual with profound early onset deafness escapes language impairment relative to his hearing peers. That is, although the deaf have the same range of native intelligence as the hearing population, every deaf high school graduate will have poorer verbal functioning than his intellectual counterpart among the hearing.

For this reason, standardized verbal tests normed on hearing populations to predict scholastic aptitude* do not give accurate predictions for the deaf. On the other hand, tests designed to measure academic skills (e.g., reading ability) do accurately measure the actual achievement of the deaf in these areas.

At Gallaudet in our admissions program, we have the problem of striking a balance between academic aptitude (i.e., intelligence) and the possession of academic skills. Years of experience in educating the hearing impaired have shown that both are needed--we can educate individuals with somewhat depressed academic skills provided that they have good potential; on the other hand, aptitude in the absence of a usable level of skill results only in failure.

In order to measure both skills and aptitude, we have constructed a broad battery of instruments. Most of these have been specially designed and normed for use with the deaf; a few are commercial instruments to provide anchor points with the general population. All have been validated for use in predicting success at Gallaudet. We do not use the battery to screen applicants out; we use it rather to screen them in. That is, in a population generally characterized by profound academic disabilities we are looking for individuals who show some strengths. The wide variety of tests we use are designed to provide the applicant maximum opportunity to demonstrate any strengths he may have. Our policy is to admit every applicant who has a reasonable chance of succeeding with our program.

In considering applicants for admission we look first at five areas of academic skills which have been determined to be related to such success: ability to comprehend written material, knowledge of vocabulary, ability to construct sentences, knowledge of formal grammar, and mathematical ability. There are no passing points on individual tests. Rather the pattern of a student's functioning in these areas is examined. Weaknesses in some areas may be compensated for

*As the term is used in the Scholastic Aptitude Test of the Educational Testing Service

by strengths in others. Individuals whose ability to handle our curriculum remains in doubt after review of their performance in these skill areas are given more intensive scrutiny. This amounts to looking closely at their performance on a number of tests of aptitude[1] and of special skill areas such as science; for these students, especially, significant weight is given to academic motivation as evaluated by their secondary schools.

During this review process applicants are classified into six groups:

Group 1 -	applicants performing at or above the normal college bound high school graduate level in all 5 basic skill areas	(20% of accepted students)
Group 2 -	applicants performing at or above the normal high school graduate level in 4 of the basic skill areas; typically the area of deficiency of this group is in mathematics	(5% of accepted students)
Group 3 -	applicants having a usable level of skill[2] in at least 4 of the skill areas	(40% of accepted students)
Group 4 -	applicants having a usable level of skill in 2 or 3 of the skill areas	(29% of accepted students)
Group 5 -	applicants having a usable level of skill in one of the skill areas	(5% of accepted students)
Group 6 -	applicants without a usable level of skill in any area	(1% of accepted students)

Applicants in Groups 1, 2 and 3 are granted admission subject to demonstration of hearing loss. Applicants in Group 4 may be admitted if they demonstrate any special aptitudes or skills or if they are highly motivated. Applicants in Group 5, if they demonstrate aptitude, special skills, or motivation, may be admitted provisionally or encouraged to apply the following year. Students in Groups 3, 4 and 5 who are admitted must generally take remedial work before undertaking the regular college program.

We do not require applicants to present certain mandatory high school courses. The reason for this is that we have found that deficits in knowledge are comparatively easy to repair if adequate academic skills and scholastic aptitude are present. Nor do we attach much important to high school grades. These, we have discovered, are of

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1 These include the Cattell Culture Fair Intelligence Test; Parts III and IV of our Composition Test; Part III of our Vocabulary Test.

2 Based on longitudinal validity data of tests.

little value in predicting success in a liberal arts program among deaf applicants. This is true in part because deaf applicants come from a wide variety of secondary school curricula and in part because grading standards for these students are more than usually erratic. For example, deaf students attending public school classes may be graded in strict competition with their hearing classmates or may, conversely, be given "charity" grades; grades received in schools for the deaf are not comparable to those attained in a hearing setting. We have, therefore, found it more effective and equitable to apply a common yardstick to all applicants.

The admissions process results in a student body with academic aptitude well above that of the student bodies of the average institution in the United States (reported in a study by the U.S. Civil Service Commission, using non-verbal measures of aptitude), but whose average skill level requires remediation before a college program can be undertaken with full success--usually about a quarter of each entering class can begin a full Freshman program immediately.

Class Placement

Placement is in either the Freshman or Preparatory program or a combination of both programs. Designation is made in one of the following ways:

1. Outright freshman placement is given to applicants who score at the very highest level on the Entrance Examination, particularly in the language areas. Some students with very high language achievement but with deficiencies in math are required to take Prep math.

2. Students who have received very high scores on the Junior Diagnostic Tests also are given direct freshman placement on satisfactory completion of their high school program. If they have not had Algebra II and Geometry, they are required to take these courses at Gallaudet.

3. Transfer students who have completed a successful year in another accredited institution of higher education are given freshman placement. Deficiencies in math must be made up and a student who fails to pass the English placement test is required to take remedial English.

4. All other students are given preparatory placement. However, satisfactory performance on math placement tests earn exemption from preparatory math and permits the students to take certain freshman courses.

Transfer Students

In the past five years the number of transfer student applications has increased substantially. This is in part a result of the growth of post-secondary institutions with programs for the deaf. All transfer applicants are required to take our Entrance Examination or present adequate scores on other entrance tests. We tend to accept about 60-70% of the transfer students who apply. In general we give freshman placement to these students, although we require that deficiencies in math be made up and that remedial English be taken by those who do not pass the English placement test.

One problem is the assessment of courses accepted for transfer credit. In general this is done by the appropriate department or by the Office of Admissions and Records based on guidelines from the academic departments. Although we endeavor to accept the maximum credit possible, we limit this generally to academic courses which are the equivalent of our own. Because of the variety of admissions standards, curricula and grading systems in other institutions, we tend to be somewhat conservative in the courses we accept. We encourage potential transfer students to take courses which correspond substantially to those offered at Gallaudet. These are likely to be accepted by Gallaudet and will thus permit students to graduate in the shortest possible time.

Preliminary evidence is that transfer students tend to do well. We hope to complete a transfer student study in order to obtain significant data on their performance.

Foreign Students

As the only college for the deaf which is international in scope, Gallaudet admits a small number of foreign students each year. In addition to Canadian students who are accepted by the same criteria as U.S. students (inasmuch as their educational programs are very similar to our own), we accept students from many countries overseas. Since it is particularly difficult and expensive for most foreign students to attend school in the United States, we accept only the most highly qualitied to ensure as far as possible against academic failure. These students must be fluent in reading and writing English. In view of the highly selective admission of these students, it is not surprising to note that their rate of survival is nearly 80%.

Junior Diagnostic Testing

In 1975 Gallaudet inaugurated a new testing program intended to provide students and their secondary schools with achievement information about these students one year before graduation. The tests are given to high school juniors in schools throughout the United States. Each student is sent a profile of his performance and the school receives both a copy of the individual profile and data about the students as a group. This gives the school the opportunity to structure senior year curricula to respond to student needs and it informs the student of his likelihood of obtaining admittance to Gallaudet. In addition, group performance gives the school some indication of general strengths and weaknesses of its educational program in comparison to other schools preparing deaf students for college. In 1975 about 800 juniors took the tests and in 1976 almost 1000 have done so.

Measuring College Potential of Language Handicapped Students

Until rather recently the admissions process in most colleges in the United States consisted essentially of recruiting the best possible group of applicants and granting admission to a sufficient number of the best of these to meet the goals of the institution. "Best" has been variously defined -- sometimes it incorporates notions of well-roundedness; frequently it embraces excellence in athletic activities; but most often it boils down to predicting who will get the best grades in college.

But now, however, a new concept has entered the admissions picture -- a criterion of social necessity which states "If there is in society a group who for one reason or another are substantially less well prepared for college work than the norm and are therefore largely excluded from attending college, it is in the best interests of society to make special provision for giving them access to higher education." This new criterion has left many admissions officers bereft of methodology. Only an over-courted handful of the various deprived minorities comes within shooting distance of the old standards. It is evident that a different approach is needed.

And it is here that Gallaudet College has something to offer. Gallaudet is an accredited liberal arts college for the hearing handicapped, founded more than a century ago. To the layman whose only contact with deafness has been through some octogenarian ancestor, the educational problems of the early onset deaf may seem far removed from the problems of the economically deprived. But closer examination reveals some fundamental identities, grounded in a common isolation from the mainstream of our Western culture.

To begin with, even before he goes to school, the deaf child's experience of the world is circumscribed. He does not hear nursery rhymes; he is not read

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Presentation delivered at American Association of Collegiate Registrars and Admissions Officers, St. Louis, Mo., April 29, 1971
Bernard L. Greenberg, Director of Admissions and Records, Gallaudet College

fairy tales. No matter what the socio-economic status of his family, he is in much the same position as the ghetto or Chicano child whose parents are often virtually illiterate and in any event are too preoccupied trying to ward off starvation to indulge in such middle class frills as ABC books and bedtime stories. The deaf child, then, like other deprived children, starts his education with a built-in cultural deficit as well as a language problem. At school the process accelerates. Assuming equal teaching and innate intellect, learning rate is a function of previously accumulated knowledges and skills. A child who is achieving at 95% of the average in kindergarten brings a little less to first grade than the norm. By the end of first grade he has acquired probably only some 90% of the skills and knowledges typically gained in first grade. And so on cumulatively through the years. This accounts for the well-documented fact that the performance of inner city children is close to average in first grade but is two, three and even more years behind the norm by senior high school. Exactly the same phenomenon is observable among the deaf. What starts out as a simple communications problem, year by year develops into a formidable deficit of knowledges and abilities, with an inadequacy of reading skills driving the whole sorry mechanism.

I could go on at length detailing the areas of similarity. Suffice it to say that cultural deprivation as an educational problem looks much the same no matter how it is caused. For this reason it seems likely that Gallaudet's experience may be of some use to others who are now also faced with the task of identifying students with college potential from among an undifferentiated group of poorly prepared candidates.

Our admissions process is based on several assumptions:

1) Since the deaf population is a virtually random selection from the American population, drawn from all parts of the country, from all racial and ethnic groups, from all socio-economic classes, and from both sexes, one must assume that the deaf population is normally distributed in regard to innate intellectual capacity, and that it, therefore, contains a substantial number of individuals who can profit from advanced education.

2) Ability to do college-level work successfully depends primarily on intellectual capacity and academic skills. Both intellect and skills must be present to a useful degree. In other words, even a genius-level intellect will fail if he is seriously lacking in skills.

3) The most essential academic skill is the ability to comprehend written material, with the ability to write comprehensibly following close behind. For students with scientific or technical aspirations mathematical skills are also crucial.

and finally, 4) Deficits in knowledges are comparatively easy to repair; deficits in basic skills are much more difficult. Nevertheless, appropriate remedial work in skill areas can make it possible for sub-marginal students to handle a college curriculum. The limits of remedial programs have not been thoroughly tested; today the amount of remedial work offered in most colleges is contingent primarily on economics. At Gallaudet, for instance, we offer one year of pre-college work and occasionally two. Neither we nor anyone else knows whether total educational reconstruction of young adults is possible. At present it is not practicable.

As in other deprived populations, there are a certain number of deaf who for one reason or another have not been educationally blighted by their handicap. These can easily be singled out. They show up well on the traditional tests of academic potential and are beyond the scope of this paper.

The problem is not how to spot these obvious nuggets, but how to find the hidden veins of gold. The usual verbal college aptitude tests do not seem to predict well either grades or attrition for our population, and close analysis shows us why. Scores on such tests are pathetically low and the score differences one finds among individuals are largely attributable to chance and error variance rather than to real differences in ability. For example, when verbal SAT scores are ranked in comparison to scores on two highly predictive tests in our own battery, it takes an increase of about 75 SAT points to produce a reliable increase in ability on our tests, and even this increase of ability is extremely small. That is, if a candidate has a verbal score of 275, it is probable that he is slightly more able to handle college work than a candidate with a score of 200 and slightly less able than one with a score of 350. But it is impossible to demonstrate that he is at all superior to a student with a score of 225 or weaker than one with a score of 325. Furthermore, if verbal SAT scores are divided into 10-point groupings (a range amounting to a small fraction of a standard deviation on the SAT), the average dispersion of scores on the predictive Gallaudet tests in any one 10-point SAT range exceeds three standard deviations. In other words, deaf students with virtually identical SAT verbal scores actually represent a wide range of ability.

The Gallaudet admissions procedure is predicated on the assumption that ability will out. We believe that, though deprivation can, and usually does, wreak educational havoc, the individual with high innate capacity will, no matter what his handicaps -- within reason, of course -- show elevated ability in some

are . This argues not for abandoning testing as some have done but rather for an extensive evaluation battery covering as many different skill areas in as many different formats as practicable, to give the candidate maximum opportunity to demonstrate his abilities. We look on our admissions screening as a talent hunt. Our interest is not in cataloguing weaknesses - God knows that's easy enough - but in ferreting out strengths, always bearing in mind that some minimum level of the essential academic skills must exist. We are in the business of screening in not screening out.

The battery we use today contains 20 different measures administered over a two-day period. Apart from timing, the tests are self-administering. The directions have been written simply with clear sample questions to avoid spuriously low scores resulting from misunderstood instructions, a not uncommon problem in disadvantaged populations. The scores on these 20 measures are later used diagnostically in planning remedial programs for accepted students but are evaluated in the following manner in making admission determinations. We group these measures, first, into broad skill areas. To the three mentioned above -- reading, writing and math - we have added two others - vocabulary and grammar - which logically are subsidiary parts of reading and writing skills, but which have proved to have an independent predictive value warranting their being given coordinate status:

Reading: We use two tests to assess this skill and derive from them three scores.

1. The first is the Cooperative Test of Reading Comprehension for senior high school, from which we obtain the usual Speed and Level scores. The content of this test is face valid for college work, although it has a rather heavy emphasis on literary-type passages rather than exposition.

The chief problem we have with it is that it is rather highly speeded -- deaf students typically work more slowly on written tests than average. It is possible that all deprived groups are better measured by tests with a low speed component. In any case this view is taken by the Commission on Tests of the CEEB. The excessive speed element seems to reduce reliability and thus dilutes predictive validity. We are now experimenting with much increased time allowances. It may make some sense when dealing with fine readers to distinguish between those who read rapidly and those who read more slowly, but when the students are poor readers the speed dimension becomes meaningless.

2. The second reading test we employ is one prepared for our own use, though we have developed some general high school norms for it. It consists of 16 expository selections drawn directly from college textbooks, but slightly edited to make the test more independent of vocabulary level. The selections are drawn equally from the sciences, the humanities and the social sciences, and thus constitute what is tantamount to a work-sample test for a liberal arts curriculum.

Writing: For this skill grouping, we define writing narrowly as the ability to take ideas and put them into effective sentences. Other facets of writing skill are included in the battery, but we do not consider them in this grouping. To measure this skill we use a single test of unique format, prepared for Gallaudet. It has 10 questions, each consisting of three simple sentences or ideas; the student is required to write a single correct sentence incorporating all three ideas. A variety of relationships are included: cause and effect, alternatives, description and temporal sequence, among others. Scoring keys have been prepared

which permit these free-answer questions to be scored quickly and with almost complete objectivity. Despite the shortness of the test and its free-answer nature, it has consistently been found to be as reliable and stable as much longer, wholly objective tests. Its reliability coefficients are typically in the .85 to .95 range. Of the 20 measures used, this test consistently is among the best two or three in predicting four-year grade-point average.

Grammar: We define this skill as grammatical usage, not mechanics, though we do measure the latter in the battery as well. We include two tests of usage, both prepared for Gallaudet.

(1) The first is a test of conventional grammar, including all the standard bugbears - faulty reference, dangling participles, agreement errors, unparallel construction and the like.

(2) The second test is more interesting - we refer to it as Deaf Mistakes. The deaf, like inner city residents, or the Pennsylvania Dutch, or Middle European immigrants, have characteristic locutions which do not conform to standard English language patterns. These are not grammatical errors in the same sense as those in the first test, but rather non-standard constructions. Because the locutions in this test are unique to the deaf, the test could not be used in its present form with any other group. The concept and format, however, could readily be adapted to measuring ghetto candidates' ability to recognize ghetto locutions which are not standard English usage.

Vocabulary: We regard this area as crucial since it underlies both of the fundamental skills of reading and writing, and, indeed, vocabulary

tests are consistently among the most predictive of college success for deaf students as well as for the hearing. We use four different measures, one a commercial test and the other three designed especially for our use.

The first is the 60-item vocabulary section of the Cooperative Reading Test. Each question presents a word and a number of suggestions from among which the student is to find a synonym. Like the other portion of the Cooperative Reading Test, we find the vocabulary section too highly speeded for adequate reliability with our population.

Second, we use another test of standard vocabulary, but with a different format, more nearly akin to the way words are used in the writing than in the reading process. An idea is presented and the student is to select from among some alternatives a word that conveys the desired meaning.

The third vocabulary test is more unusual; it tests knowledge of standard English idioms. Although this area is rarely tested, weakness in it is an even more serious barrier to reading comprehension than paucity of vocabulary. We know what such expressions as "hard put to it" or "give rise to" mean, but the deprived student has not been exposed to such locutions as a matter of course and, unlike formal vocabulary, idioms are virtually never taught specifically. All writing is larded with such expressions, but there is no flag on the material to indicate that a particular group of simple words cannot be taken literally. Paragraph upon paragraph in this way becomes hopeless gibberish to many deprived students. The interrelationship of scores on idiom vocabulary and ordinary vocabulary shows that for the deaf at least, the two areas are by no means identical.

Fourth and finally, we use a test of inferential vocabulary. Observation of good readers suggests that they are skillful in inferring the meaning of unfamiliar words from the context in which they are found and that in this way they build their vocabulary. This test measures this inferential ability. Each question presents in a brief paragraph a vocabulary word so difficult that it can be assumed to be beyond the knowledge of all candidates. The task is to derive its meaning from the paragraph context. This, too, seems a measurably distinct verbal skill.

Mathematics: We use two tests in this skill area, both commercially available, because the deaf closely resemble their normal counterparts in mathematical ability and do not seem to require specially prepared tests. We obtain from these tests three scores:

First, the Cooperative Algebra Test, 9th Grade Level. We use a test of elementary rather than advanced algebra because of the limited high school curriculum offerings available to the deaf.

Second, the California Mathematics Test, Advanced Level. From this the usual reasoning and fundamentals scores are derived.

Altogether then, these five basic skill areas -- Reading, Writing, Grammar, Vocabulary and Math -- account for 13 of the 20 measures used. The remaining seven measures, six tests and one rating, are used to indicate special strengths. These seven measures are:

1. The Cattell Culture Fair Non-Verbal Intelligence Test -- This test has two drawbacks from the point of view of use in admissions. First, it does not measure the usual criteria of college success; apparently it is verbal intelligence which is called for in college and no amount of non-verbal intellect can compensate for verbal inadequacies. Second, the

test is prone to false negatives -- individuals score in the feeble minded range whose life histories clearly demonstrate this evaluation to be inaccurate. Accordingly, we pay attention only to high scores. These, we find, do predict ability to master mathematics, and may therefore, identify mathematics potential in individuals who have not been exposed to a mathematical curriculum.

2. A test of Concept Formulation -- This instrument was originally prepared to test the often heard assertion that the deaf are unable to conceptualize - which incidentally proved a groundless stereotype - but since the test proved to have predictive validity somewhat independent of other measures, it was included in the admissions battery as well. It consists of 20 questions, in each of which are five words, four of which are similar in some underlying quality. The task is to choose the dissimilar word. The vocabulary level is kept low, to reduce contamination from vocabulary knowledge and the words are arranged so as to encourage the formulation of incorrect concepts which must be tested and discarded. A premium is thus placed on mental agility. This test is the only one in the battery which is closely related to both verbal and mathematical ability.

3. Paragraph Arrangement -- This test, also prepared for Gallaudet's use, is designed to measure a significant facet of writing skill -- the ability to put thoughts in logical, coherent order. Curiously, the test correlates poorly with grades for the remedial year - and was nearly abandoned when we began to validate the battery using first year grades as a criterion - but it proved to be quite predictive of four-year college grades. The explanation appears to be that during the remedial program

the writing problems addressed are the basic ones of word use and sentence structure. It is only later in the student's educational career that the importance of coherence is given proper recognition.

4. Punctuation -- Though prepared for Gallaudet, this is a conventional test of punctuation and capitalization skills.

5. Spelling -- Like the punctuation test, this is a traditional measure of ability to spell. We have arbitrarily excluded both of these tests from measurement under the basic Grammar skill, partly because of my judgment as a renegade English professor that such mechanics are of little importance in the art of writing. To my embarassment, however, they appear to be quite predictive of success in college.

6. Cooperative Science Test, Junior High School Level. -- This test is included in our battery because most of our applicants have taken very little science. If they, nevertheless, have a high level of knowledge about it, it might be reasonably inferred that they have a special interest in the area.

7. Rating of Motivation -- This is a simple combination of graphic ratings on several aspects of motivation, furnished by the applicant's secondary school. This rating is among our most predictive measures and has the added advantage of predicting most effectively in the mid-range area, where ability differences are extremely difficult to distinguish, but where there is a great range in degree of success in college. The ability of the motivation rating to predict college performance is largely independent of cognitive measures, and thus adds greatly to accuracy of prediction.

Since none of these twenty measures overlaps more than 50% with any other in the battery, it is probable that each is contributing at least a little something unique to our knowledge about candidates. With a few exceptions each of the measures is significantly related to four-year grade-point average and to remaining in college till graduation.

How do we set about digesting this large and heterogeneous mass of information in order to make admissions decisions? Essentially, we categorize the applicant population into six broad groups, according to their tested competence in the five major skill areas:

Group I consists of applicants who are superior in all five skills. This is the group who have not been seriously disadvantaged by their handicap.

Group II consists of those who are superior in four of the five skills. These are usually representatives of that familiar class of very able individuals who are undone by mathematics.

Group III is defined as those applicants who do not meet the criteria for the first two groups but who have at least a moderate level of skill in all five basic areas. We define this minimum level pragmatically in terms of what our many years of experience tell us can be accomplished in a year of remedial work. Beyond this minimum competence requirement, moreover, for inclusion in Group III we require that the applicant show several areas of distinct strength.

Group IV is made up of applicants who meet this moderate skill level on three or four of the basic areas and who, in addition, show strength on a number of tests. The entire record of these applicants is scrutinized minutely, with special emphasis on motivation.

Group V consists of applicants who meet none of the above standards but who show some other sign of potential, for example, very elevated intelligence or science scores, extremely favorable recommendations, or scores in the five primary skill areas which approach those needed for inclusion in Group III. The entire record of those in Group V, too, is reviewed with great care, again with emphasis on motivation.

Group VI are those who are performing at an extremely low level and who have been unable to muster any evidence that they have the potential to handle a college curriculum in the reasonably near future.

All candidates are reviewed for suitability -- age, character, health and the like -- before being granted admission.

Admission is generally offered to all members of Groups I, II, and III, who are otherwise suitable. About two-thirds of Group IV are admitted and about one-third of Group V. Those in Group VI are not offered admission. In all, about half of the applicant group are admitted each year. Except for Groups I and II, all those admitted - about 80% of the total - are required to take a year of remedial work before entering the college proper.

Bringing professional judgment to bear on each candidate's credentials may be more time consuming than a simple cutting point approach (though our computer is programmed to do the initial categorization of applicants into the six basic groups), but it is less wasteful of student potential. It appears to be highly valid:

Those in Group I have three chances out of four of graduating and two chances out of three of earning at least a B average.

Those in Group II graduate in two out of three cases and have an even chance of earning a B average or better.

Those in Group III have a 50-50 chance of graduating and have one chance in three of a B average.

In Group IV only one of three who are accepted graduates and only 1 in 10 earns a B average.

Those accepted from Group V have one chance in four of graduating and virtually no chance of earning a B average.

It is clear from this progression that those in Group VI would have very little possibility of success if they were granted admission.

I should perhaps point out that the reason we accept applicants from the high risk Groups IV and V, where the prediction would be one of failure, is that the deaf have extremely limited alternatives for higher education -- Gallaudet is the only liberal arts institution in the world to serve their needs. Accordingly, we feel an obligation to give an opportunity to anyone who has a fighting chance of succeeding.

As I have mentioned, Gallaudet requires 80 percent of each incoming class to take a year of remedial work before attempting the college curriculum. These students are placed in classes of 15 or fewer in accordance with their general level of language ability and their specific deficiencies as diagnosed by the admissions tests. General verbal level is determined by a weighted combination of all verbal tests in the admissions battery. The weights used were derived, not from the textbook regression equation, but judgmentally, taking into account differences in standard deviations. We tried both judgmental and regression weighting and found the judgmental method less subject to shrinkage from class to class than the regression weights. After general verbal level has been determined, the student may be placed in a group whose members are all especially deficient in formal grammar, or in vocabulary knowledge, or in reading comprehension and so on. Course content is tailored for the general ability level of the group with emphasis on the areas of most severe deficit. Remedial mathematics, as we practice it, is more traditional with classes in the usual subject matter areas.

At the end of this preparatory year, students are retested. Whether or not they are admitted to the college proper depends primarily on their instructors' evaluations of their work and on what measurable improvement they have made on the tests. Since most of the students taking the remedial program were several years behind normal high school graduate achievement to begin with, we cannot expect them to make up the entire deficit in a single year. Thus, most of them enter their Freshman year still with weaker skills than the normal college student. But they are on the upswing. With good instruction and continued motivation, they move nearer and nearer to closing the gap, and a not inconsiderable number even become honor students.

* * * *

In summary, then, at Gallaudet we believe, not in less testing of educationally retarded applicants, but in more, Simply because some traditional measuring devices are too insensitive to record differences occurring among a group of poorly equipped students is no reason to give up the effort to detect these differences, if they are significant to performance -- and they are.

We have a multi-dimensional admissions battery which has proven capable of determining with a high degree of accuracy which students from a disadvantaged population can, with a reasonable remedial investment, do college-level work successfully. Scores on the admissions tests can also be used diagnostically to tailor remedial work to individual needs.

We believe that an adaptation of our approach would enable other institutions to enroll disadvantaged students with considerably more hope of success than many colleges have at present. Even in situations where it is impractical or impolitic to use admissions tests, the multi-dimensioned battery approach used for placement in an individually designed remedial program can substantially improve a student's chances of graduating.

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

Northridge, California 91330

OFFICE OF ADMISSIONS AND RECORDS

June 27, 1979

Gina Wilson
T-131
Educational Testing Service
Princeton, New Jersey 08541

Dear Ms. Wilson:

In response to your telephone call last Thursday, I am providing the information you have requested. As I described in our conversation , the Scholastic Aptitude Test or the American College Test is used in combination with the high school grade point average (a figure derived from grades in all courses in the tenth, eleventh, and twelfth years excluding physical education) to determine eligibility for admission. You will find an admission table giving the required standards enclosed here. Applicants with better than a 3.20 grade point average in high school are admitted regardless of their test scores. They must, however, take one of the tests.

Steve Loving of the Handicapped Students Office here has given me a breakdown of handicapped students by disability for the Fall, 1978 Semester. The figures are as follows:

Visually impaired/blind	42
Hard of hearing/deaf	184
Wheelchair confined	36
Mobility limitation (other than wheelchair)	49
Speech impairment	7
Specific learning disability	1
Temporary	5
Other (Includes heart disease, diabetes, epilepsy, upper extremity amputation, emphysema, nervous condition, alcoholism, cancer)	137

I suggest that if you have additional questions either now or in the fall you should contact Mr. Loving. His telephone number is 213-885-2869.

Both Mr. Loving and I are quite interested in the research that the Educational Testing Service has conducted concerning handicapped students. It would be appreciated if you could send me a list of publications or a bibliography for this area and how to obtain those works. Additionally, I know that CSUN has contracted with ETS for validity studies of its first time freshman population in the past. Is it possible for these same studies to be done for a more select group such as handicapped students if we could give you the appropriate information?

I thank you in advance for your cooperation. Let me know if you need assistance in the future.

Sincerely,

Michael Olsson

Michael Olsson
Assistant Director
Admissions and Records

MO:sd
cc: Steve Loving, Handicapped Students Office
Ed Chambers, Admissions and Records

admission requirements are met. Students earning grade point averages below 2.0 are not eligible for admission.

The minimum eligibility index for California Residents and California high school gradutes is: SAT = 3072 and ACT = 741. The method used to compute scores is as follows:

- Multiply the grade point average by 800 and add it to the total SAT score; or
- Multiply the grade point average by 200 and add it to 10 times the composite ACT score.

ADMISSION TABLE

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score
			2.96	15	704	2.71	20	904	2.47	25	1096	2.22	30	1296
3.20	11	312	2.95	16	712	2.70	21	912	2.46	25	1104	2.21	30	1304
3.19	11	520	2.94	16	720	2.69	21	920	2.45	26	1112	2.20	31	1312
3.18	11	528	2.93	16	728	2.68	21	928	2.44	26	1120	2.19	31	1320
3.17	11	536	2.92	16	736	2.67	21	936	2.43	26	1126	2.18	31	1328
3.16	11	544	2.91	16	744	2.66	21	944	2.42	26	1136	2.17	31	1336
3.15	12	552	2.90	17	752	2.65	22	952	2.41	26	1144	2.16	31	1344
3.14	12	560	2.89	17	760	2.64	22	960	2.40	27	1152	2.15	32	1352
3.13	12	568	2.88	17	768	2.63	22	968	2.39	27	1160	2.14	32	1360
3.12	12	576	2.87	17	776	2.62	22	976	2.38	27	1168	2.13	32	1368
3.11	12	584	2.86	17	784	2.61	22	984	2.37	27	1176	2.12	32	1376
3.10	13	592	2.85	18	792	2.60	23	992	2.36	27	1184	2.11	32	1384
3.09	13	600	2.84	18	800	2.59	23	1000	2.35	28	1192	2.10	33	1392
3.08	13	608	2.83	18	808	2.58	23	1008	2.34	28	1200	2.09	33	1400
3.07	13	616	2.82	18	816	2.57	23	1016	2.33	28	1208	2.08	33	1408
3.06	13	624	2.81	18	824	2.56	23	1024	2.32	28	1216	2.07	33	1416
3.05	14	632	2.80	19	832	2.55	24	1032	2.31	28	1224	2.06	33	1424
3.04	14	640	2.79	19	840	2.54	24	1040	2.30	29	1232	2.05	34	1432
3.03	14	648	2.78	19	848	2.53	24	1048	2.29	29	1240	2.04	34	1440
3.02	14	656	2.77	19	856	2.52	24	1056	2.28	29	1248	2.03	34	1448
3.01	14	664	2.76	19	864	2.51	24	1064	2.27	29	1256	2.02	34	1456
3.00	15	672	2.75	20	872	2.50	25	1072	2.26	29	1264	2.01	34	1464
2.99	15	680	2.74	20	880	2.49	25	1080	2.25	30	1272	2.00	35	1472
2.98	15	688	2.73	20	888	2.48	25	1088	2.24	30	1280			
2.97	15	696	2.72	20	896				2.23	30	1288			

See *Eligibility Index* in the ADMISSION section.

RESOLUTION APPROVED BY CEASD POST-SECONDARY EDUCATION COMMITTEE

DEAF

MAY 10, 1973

Whereas

Admission to graduate study traditionally places major emphasis on student scores on written tests and

Whereas

Such tests have not been validated for a population of hearing impaired students and

Whereas

True & undeniable

Such tests as the Graduate Record Examination have not proved adequate to predict a student's ability to perform successfully in Graduate School or in professional fields for which the student has trained and

Whereas

Results of tests taken by handicapped students are reported to post-secondary institutions to which they are applying for admissions with the notation that the test was "taken under special conditions" thus identifying them as handicapped and resulting in the possibility of an adverse admissions decision.

Whereas

(on deaf people)

The use of unvalidated admissions tests and testing procedures which identify a student as handicapped prior to the admissions decision for admission or non-admission are clear violations of the Section 504 compliance guidelines.

Be it Therefore Resolved

That the Conference of Executives of American Schools for the Deaf recommends that the use of the Graduate Record Examination and other unvalidated admissions tests be discontinued in determining the admissions of hearing impaired students to graduate study and

Be it Further Resolved:

on deaf samples

That until such time as validated admissions tests are developed that Graduate institutions may wish to consider one or more of the following criteria in determining the eligibility of hearing impaired students for admission to graduate study:

(a) Grade point average for previous college work.

(b) Recommendations of professors with whom students have studied.

(c) A personal interview by a departmental or school admissions committee.

WESTERN MARYLAND COLLEGE
WESTMINSTER, MD. 21157

DEPARTMENT OF
PSYCHOLOGY

April 24, 1978

Dr.

California State University, Northridge
Northridge, California 91324

Dear Dr.

We have found GRE scores to be discriminatory against deaf students. They were not standardized on a deaf population. We have substituted non-verbal measures such as the Ravens Progressive Matrices.

Sincerely,

Professor of Psychology

WILSON RILES
Superintendent of Public Instruction
and Director of Education

STATE OF CALIFORNIA
DEPARTMENT OF EDUCATION
STATE EDUCATION BUILDING, 721 CAPITOL MALL, SACRAMENTO 95814

May 8, 1978

Dr.
Center on Deafness
California State University
18111 Nordoff Street
Northridge, California 91324

Dear Ray:

Thank you for this opportunity to share my thoughts with you regarding admissions standards for deaf students, at both the undergraduate and graduate levels. I continue to hope that Section 504 Regulations of the Rehabilitation Act of 1973, will work towards assuring equal opportunities to all handicapped individuals in all activities in our society. I continue to believe in Joseph A. Califano's statement regarding these regulations..."It will usher in a new era of equality for handicapped individuals in which unfair barriers to self-sufficiency and decent treatment will begin to fall before the force of law."

Universities throughout the United States are beginning to re-evaluate admissions standards and curriculums. The University of California and Harvard have made news lately because of their plans to implement more rigid admissions standards and more relevant curriculums. While I support the concept that has motivated this movement, I unequivocally defend the rights of handicapped individuals to participate in the educational process at all levels. To deny an individual his rights to an education at the undergraduate or graduate level solely on the basis of a handicapping condition is, in addition to being in violation of Section 504, a violation of an individual's human rights to develop to his or her fullest potential. In studying new admissions standards, we must be extremely sensitive to the needs of those individuals with exceptional needs, and we must make certain that these individuals are given every opportunity possible to prove their abilities to succeed.

I would encourage your colleagues to make an in-depth study of the use of the Graduate Record Examination (GRE) as a heavily weighted criteria for admission to your graduate program. My experience in working with handicapped and non-handicapped individuals has revealed very questionable correlations between the results obtained on the GRE and

Dr. May 8, 1978

academic performance. Also, I have serious reservations regarding the use of the GRE as an instrument for determining admission to graduate programs on the basis of its potential for discriminating against deaf students. I suggest that handicapped individuals were not included in the standardization sample of this instrument. Also, the heavy weighting of one particular instrument in determining the capability of a student with a serious handicapping condition, such as deafness, in my opinion constitutes a violation of Section 504.

Certainly there are deaf individuals who, because of their poor academic performance at the secondary or undergraduate levels, have demonstrated that they are not graduate material. These individuals should be counseled out of the university program and into a training program in which they can succeed and learn to be self-supporting adults. However, these decisions should be made by a committee comprised of "regular" university faculty members and those with backgrounds in Special Education, specifically in the area of the deaf.

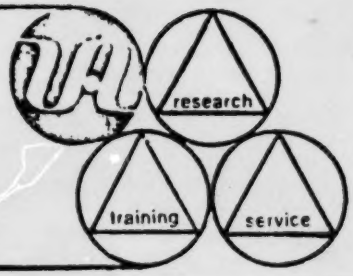
In summary, I hope that your colleagues will devote serious thought and time in planning strategies for giving qualifiable deaf individuals an opportunity to determine whether or not they can succeed in a university program. After all, isn't this the same opportunity that is afforded non-handicapped students? Let us hope that when a deaf individual is refused admission to an undergraduate or graduate program that, based upon several factors, the individual has clearly demonstrated an inability to succeed at the post-secondary level. With specific consideration and assistance, we have seen innumerable deaf individuals obtain undergraduate and graduate degrees and take their rightful places in the hearing world.

Thank you very much for this opportunity to share with you my thinking regarding this matter. I do not believe that your colleagues intentionally discriminate against handicapped individuals. However, I feel that educators have the responsibility and the mandate to make Section 504 a reality. We must work unrelentingly to assure that equal opportunities are afforded to all handicapped individuals.

Sincerely,

Special Programs and Support Services

the rehabilitation center
college of education
the university of arizona
tucson, arizona • 85721



May 1, 1978

Dr.
Center on Deafness
California State University
Northridge, California 91324

Dear

Sorry to be late in answering your letter of April 7 but I spent most of the month of April out of the office attending meetings.

The question of Graduate Record Examination scores doesn't seem to be much of a problem on this campus at this time. We surveyed many other departments last year to determine their admission procedures and found that very few are still insisting on the GRE as one of the criteria for admission to their programs. Most are making the decision based on grade point averages, demonstrated interest in the area of study, and letters of reference. Some require that the student appear for a personal interview by members of the faculty. In the Rehabilitation Department we still require the GRE or the MAT, however, these scores do not prevent a deaf applicant from being admitted even though most deaf candidates have relatively low scores. The faculty is conversant enough with deaf persons to realize that a low test score is not a true indicator of the student's abilities. We did have an interesting experience with a deaf freshman last semester. This student requested that an interpreter be available during tests. This request made its way to the civil rights officer on campus. She presented this to the campuswide committee on handicapped students and one member, who should have been more knowledgable, requested that all deaf students be given preadmission screening tests to determine their ability to do college level work. Fortunately this was not acted upon because I think this would have led to a law suit. The man making this suggestion has been instrumental in getting some deaf graduate students enrolled in classes on campus and would seem to have greater knowledge of the deaf than to make such a request.

We allow MAT as an alternative to the GRE for admission to the Rehabilitation Department and expect a score of about 50 for admission. We have accepted deaf students however, with scores as low as 26. We have discussed the possibility of dropping all entrance test requirements which seems to be a growing trend in other departments.

Sincerely,

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Professor

GALLAUDET COLLEGE
KENDALL GREEN, WASHINGTON, D.C. 20002

DIRECTOR OF ADMISSIONS AND RECORDS
TELEPHONE 202—447-0841

April 17, 1978

Dr.

Center on Deafness
California State University
Northridge, Calif. 91324

Dear

The position taken by your colleagues is one that surfaces from time to time and is apparently based on a misunderstanding of the nature of aptitude tests. It is entirely inappropriate to establish arbitrary cut-off points for the deaf on aptitude tests normed for persons with normal hearing. We have found through extensive research that standardized tests of scholastic aptitude (SAT, ACT), especially if the same cutting points are applied as to the hearing, have no validity for the deaf. (Mathematics scores seem to have some utility.) Conscquently, we have developed our own entrance examination battery which does predict extremely well the success of deaf students. The success of the students at Gallaudet as well as in employment after graduation and in graduate school attests to the wisdom of specialized testing.

Graduate education presents a similar situation. Our studies indicate that the GRE and MAT are also invalid for the deaf graduate students and we therefore use other criteria (grades, recommendations and motivational evidence) as well as our undergraduate entrance battery. Again, the success of our deaf graduate students both in college and in employment confirm us in our decision.

Perhaps the enclosed policy statement will provide some assistance. Certainly the requirements of 504 are a powerful factor in stating your case since the tests and cutting scores CSUN would require are not demonstrably valid for the deaf. Their use is, therefore, illegal until their validity can be proven -- and I doubt that that can be done.

I am a strong advocate of setting high standards and sticking to them -- but they must not be arbitrary. Using the same cutting points for the

Dr.
CSUN

4/17/78

deaf and the hearing is just that. Growing advocacy pressure on the part of deaf groups will preclude the mistaken application of tests standardized on hearing populations, in violation of the law.

I hope this will be helpful to CSUN in establishing graduate (and other) admissions policy.

Sincerely yours,

Director of Admissions and Records

*CURRENT EMPLOYMENT OF DEAF MA GRADUATES OF CALIFORNIA STATE UNIVERSITY, NORTHRIDGE**

April, 1979

ALABAMA

DESMARAIS, MARJORIE
MA: CSUN-1974, ETP
Teacher, Alabama School for the Deaf, Talladega

ARIZONA

AMANN, FRANK ALLEN
MA: CSUN-1976, ETP
Teacher, Phoenix Day School for the Deaf, Phoenix

BUSBY, HOWARD R.
MA: CSUN-1973, NLTP
Supervisor, Arizona School for the Deaf, Tucson

KOVARIK, JUNE
MA: CSUN-1978, TPP
Teacher, Phoenix Day School for the Deaf, Phoenix

LONGACRE, STEVEN
MA: CSUN-1978, TPP
Teacher, Arizona State School for Deaf and Blind, Tucson

RARUS, NANCY B.
MA: CSUN-1974, NLTP
Supervising Teacher, Arizona State School for the Deaf, Tucson

REVELL, JAMES
MA: CSUN-1978, TPP
Teacher, Arizona State School for the Deaf, Tucson

WOMACK, BARBARA (LEHMAN)
MA: CSUN-1973, TPP
Homemaker, Tucson (Former teacher, Kendall Demonstration School, Washington, D.C.)

WOMACK, JAMES R.
MA: CSUN-1973, TPP
Teacher, Arizona State School for Deaf and Blind, Tucson

CALIFORNIA

ALEXANDER, DOUGLAS
MA: CSUN-1975, TPP
Assistant Professor, Riverside City College, Riverside

BAIM, WILLIAM A.
MA: CSUN-1973, TPP
Teacher, California School for the Deaf, Berkeley

BARBER, CARL
MA: CSUN-1977, Administration/Supervision
Assistant Principal, California School for the Deaf, Riverside

BARBER, HELEN C. (ARBUTHNOT)
MA: CSUN-1975, ETP
Teacher, California School for the Deaf, Berkeley

BATTAD, HESTER
MA: CSUN-1975, ETP
Teacher of the Handicapped, Los Angeles Trade Technical College, Los Angeles

BELDING, DON III
MA: CSUN-1973, ETP
Teacher, Riverside School District, Riverside

BENNETT, BONITA L. (WHELAN)
MA: CSUN-1974, TPP
Substitute Teacher, Ventura Unified School District, Ventura

BENNETT, JAMES W.
MA: CSUN-1974, TPP
Teacher, Ventura Unified School District, Ventura

BERNSTEIN, SEYMOUR S.
MA: CSUN-1974, ETP
Teacher, California School for the Deaf, Riverside

BILLINGS, WENDY J. (GORDON)
MA: CSUN-1973, TPP
Teacher, California School for the Deaf, Berkeley

BOND, ALBERT
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Retired (former Teacher, Marlton School for the Deaf, Los Angeles)

*Last known

BOYD, BARBARA E.
MA: CSUN-1973, NLTP
Student Personnel Specialist, Support Services to Deaf Students, National Center on Deafness, CSUN

BRADLEY, RAYMOND W.
MA: CSUN-1975, TPP
Teacher, Taft Hearing Impaired School, Santa Ana

BURDETT, JOYANNE K.
MA: CSUN-1973, TPP
Teacher, California School for the Deaf, Berkeley

BURDETT, RONALD C.
MA: CSUN-1975, ETP
Teacher, Ohlone College, Fremont

BURSTEIN, GERALD
MA: CSUN-1965, NLTP
Coordinator, Library-Media, California School for the Deaf, Riverside

CARTER, SHARON P.
MA: CSUN-1975, NLTP
Acting Administrator, Support Services to Deaf Students, National Center on Deafness, CSUN

CASALE, FRANCIS
MA: CSUN-1974, ART
Teacher, Pierce College Woodland Hills

CHANDLER, RONALD E.
MA: CSUN-1973, TPP
Teacher, Compton Unified School District, Compton

CLINE, JAMES L.
MA: CSUN-1975, TPP
Teacher, California School for the Deaf, Riverside

COLUMPUS, DAVID
MA: CSUN-1976, ETP
Rehabilitation Counselor for the Deaf, Chula Vista

DECKER, GREGORY L.
MA: CSUN-1973, TPP
Teacher, California School for the Deaf, Riverside

DIGNAN, ARTHUR G.
MA: CSUN-1975, TPP
Teacher, Orange County Department of Education Santa Ana

DUVE, GENE R.
MA: CSUN-1975, TPP
Teacher, California School for the Deaf Berkeley

EDBERG, ARLENE
MA: CSUN-1975, English
Freelance Editor, Tutor, Simi Valley

EHRLICH, ELLEN
MA: CSUN-1977, NLTP
Consultant, Golden West College Huntington Beach

ELLIOTT, NEILIUS L.
MA: CSUN-1976, ETP
Teacher, California School for the Deaf, Riverside

ELLIS, DOUGLAS L.
MA: CSUN-1973, TPP
Teacher, Selaco Downey High School, Downey

ELLIS, ROBERT
MA: CSUN-1975, TPP
Teacher, Newcastle School, Los Angeles

EPPS, ERNEST
MA: CSUN-1977, TPP
Teacher, Marlton School for the Deaf, Los Angeles

FINNERAN, MICHAEL R.
MA: CSUN-1973, TPP
Teacher, California School for the Deaf, Berkeley; Student, NLTP-1979, CSUN

FLEISCHER, LAWRENCE R.
MA: CSUN-1972, TPP, NLTP
Ed.D. Brigham Young University, 1975
Associate Professor, CSUN

(CALIFORNIA, Continued)

FLEISCHER, VERA S.
MA: CSUN-1974, TPP
Teacher, Pasadena Unified School District, Pasadena

GERMANY, JEREMIAH
MA: CSUN-1973, NLTP
Deceased

GODFREY, LANNIE JOE
MA: CSUN-1978, TPP
Student, CSUN-1979

GOUL, JOHN M.
MA: CSUN-1972, TPP
Teacher, Marlton School for the Deaf, Los Angeles

GREATHOUSE, JONI (SCHWARTZ)
MA: CSUN-1975, ETP
Teacher, California School for the Deaf, Riverside

GREENSTONE, MYRON
MA: CSUN-1975. TPP
Teacher, Kenneth Avenue School, Carmichael

GROSS, IRWIN BRUCE
MA: CSUN-1974, TPP
Teacher, Selaco Downey High School, Downey

HEALY, CRAIG
MA: CSUN-1977, TPP
Teacher, California School for the Deaf, Berkeley

HENES, CONSTANCE M.
MA: CSUN-1973, TPP
Homemaker, Riverside

HERBOLD, CAROLYN S.
MA: CSUN-1976, ETP
Assistant Professor, Ohlone College, Fremont

HERROLD, MARY D.
MA: CSUN-1973, ETP
Teacher, California School for the Deaf, Berkeley

HINKS, LYLE A.
MA: CSUN-1974, NLTP
Coordinator, American River College, Sacramento

(CALIFORNIA, Continued)

HOLCOMB, MARJORIEBELL S.
MA: CSUN-1968, NLTP
Teacher, Ohlone College, Fremont

HOLCOMB, ROY K.
MA: CSUN-1968, NLTP
LLD: Gallaudet College, 1976
Coordinator, Office of the Santa Clara Superintendent of Schools, San Jose

HOOPER, PATRICIA
MA: CSUN-1978, TPP
Teacher, Selaco-Downey High School, Downey

HUDNALL, WILLIAM BOYED
MA: CSUN-1976, NLTP
Rehabilitation Counselor, California State Department of Rehabilitation, Westminster

HUNTER, CAROLYN
MA: CSUN-1978, Educational Psychology
Coordinator, Tutoring, Support Services to Deaf Students, National Center on Deafness, CSUN

INGHAM, W. EDWARD
MA: CSUN-1977, NLTP
Coordinator, Telecommunications Training Center, National Center on Deafness, CSUN

JAECH, TIMOTHY A.
MA: CSUN-1966, NLTP
Teacher, California School for the Deaf, Riverside

JARASHOW, DAVID N.
MA: CSUN-1974, Mathematics; 1976, Special Education
Teacher, Oxnard College, Disabled Students Center, Oxnard

JONES, WARREN
MA: CSUN-1970, NLTP
Teacher, Regional Center for Deaf and Hard of Hearing Children, Bakersfield

KESSLER, MARCIA S.
MA: CSUN-1970, TPP; 1975, NLTP-DB
Educational Specialist, Golden West College, Huntington Beach

(CALIFORNIA, Continued)

KIELY, JAMES P.
MA: CSUN-1975, TPP
Teacher, Sweetwater Union High School, Chula Vista

KIMBERLIN, GREGORY C.
MA: CSUN-1969, NLTP
Director, Mental Health Services for the Deaf, St. John's Hospital, Santa Monica

KOETZ, JAMES
MA: CSUN-1975, TPP
Teacher, California School for the Deaf, Berkeley

KOLOMBATOVIC, VADJA V., JR.
MA: CSUN-1973, TPP
Teacher, Granite Hills High School, San Diego

KOSEK, ADRIENNE (CLEVA)
MA: CSUN-1975, TPP
Coordinator of Tutoring, Pasadena City College, Pasadena

KRAMER, JUDITH (BLAIR)
MA: CSUN-1976, TPP
Teacher, California School for the Deaf, Berkeley

KRAMER, SCOTT P.
MA: CSUN-1976, TPP
Teacher, California School for the Deaf, Berkeley

KRONE, EARL
MA: CSUN-1977, Political Science
Postal Service, Inglewood

LADNER, EMIL S.
MA: CSUN-1971, NLTP
Retired (former Consultant on Deafness, Berkeley)

LAMBERTON, JUDITH L.
MA: CSUN-1975, TPP
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LARSON, HERBERT W.
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(CALIFORNIA, Continued)

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MA: CSUN-1977, TPP
Student, CSUN-1979

LENHAM, JEFFREY
MA: CSUN-1973, TPP
Specialist for the Hearing-Impaired, El Camino College, Torrance

LEVY, ANNIE J.
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LYNCH, DANIEL J.
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MACDONALD, RODERICK
MA: CSUN-1977, NLTP-DB
Coordinator, Computer Training Program for Deaf-Blind Persons, Ohlone College, Fremont

MALZKUHN, BRIAN L.
MA: CSUN-1973, TPP
Teacher and Coach, California School for the Deaf, Berkeley

MARLIN, PHILIP
MA: CSUN-1974, History
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MCKEE, DAVID E.
MA: CSUN-1973, TPP
Teacher, Mesa College, San Diego

MCKINNEY, VIRGINIA E.
MA: CSUN-1969, NLTP
Language Reading Specialist, Marlton School for the Deaf, Los Angeles

MEYER, LEONARD J.
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Teacher, Selaco Downey High School, Downey

MILLER, GARLAN W.
MA: CSUN-1976, TPP
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MILLER, LUCILLE V.
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Ed.D.:Brigham Young University, 1976
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NICHOLS, NADINE
MA: CSUN-1977, TPP
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PAKULA, ISAAC
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PARKER, AUDREY B.
MA: CSUN-1975, TPP
Project Director, High School Program, "ADEPT," Panorama City

PEDERSEN, KENNETH
MA: CSUN-1974, TPP
Teacher, San Diego City Unified School District, San Diego

PETERSON, DAVID R.
MA: CSUN-1973, NLTP
Teacher, California School for the Deaf, Berkeley

PODOLSKY, SHERWIN D.
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Investigative Auditor, District Attorney's Office, Los Angeles

QUARTERMUS, LILLIAN
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Program Specialist, Kenneth Avenue School, Carmichael

REVELL, CATHERINE
MA: CSUN-1978, TPP
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RICHARDSON, BARBARA J.
MA: CSUN-1973, TPP
Teacher, Marlton School for the Deaf, Los Angeles

RICHARDSON, MONT W.
MA: CSUN- 1973, TPP
Teacher, Marlton School for the Deaf, Los Angeles

SANTILLANES, VINONA K.
MS: CSUN-1973, TPP
Teacher, Los Angeles Pierce College, Woodland Hills

SKINNER, LILLIAN H.
MA: CSUN-1966, Counseling
Teacher, Arroyo Elementary School, Simi Valley

SMITH, MARIE (KAMUCHEY)
MA: CSUN-1975, ETP
Special Trainer in Total Communication, California School for the Deaf, Berkeley

STECKER, ETTA L,
MA: CSUN-1970, TPP
Teacher, Saddleback College, Mission Viejo
Teacher, Rancho Santiago Community College, Santa Ana

STECKER, GEORGE R.
MA: CSUN-1973, ETP
Teacher, Golden West College, Huntington Beach

STERN, HEDY (UDKOVICH)
MA: CSUN-1976, TPP
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STERN, RONALD J.
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STOCKMAN, JOHN
MA: CSUN-1975, TPP
Teacher, Marlton Junior High School, Los Angeles

STOCKMAN, TONI
MA: CSUN-1976, TPP
Teacher, Covina Valley Unified School District, Aural Education, Covina

SUTTON, KATHRYN M. (HOLLAND)
MA: CSUN-1972, TPP
Teacher, Southwest School for the Hearing Impaired, Lawndale

CALIFORNIA (continued)

SWAIM, ANNA LEE
MA: CSUN-1974, ETP
Teacher, California School for the Deaf, Berkeley

SWAIM, WILLIAM D.
MA: CSUN-1972, NLTP
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SWEENEY, MARY LOU
MA: CSUN-1976, ETP
Tutor, Coast Community District, Anaheim Department of Rehabilitation, Costa Mesa

THOMAS, KATHRYN
MA: CSUN-1977, TPP
Social Group Worker of The Hearing-Impaired, Neighborhood Youth Association, Wilmington

TURNER, STEVEN A.
MA: CSUN-1975, TPP
Teacher, Taft School, Santa Ana

VALE, GARY M.
MA: CSUN-1973, TPP
Teacher, Simi High School, Simi Valley

WELLS, DEANNE
MA: CSUN-1974, ETP
Lead Teacher, Riverside County Schools, Riverside

WILLIAMS, GENE H.
MA: CSUN-1973, TPP
Counselor, Department of Rehabilitation Van Nuys

WRIGHT, RICHARD O.
MA: CSUN-1970, NLTP
Former Rehabilitation Counselor, San Francisco

WUKADINOVICH, MICHAEL L.
MA: CSUN-1973, ETP
Teacher, Riverside County Schools, Riverside

ZINZA, LESLIE J.
MA: CSUN-1974, TPP
Teacher, Fremont

CANADA

RODGERS, WILLIAM J.
MA: CSUN-1978, TPP
Teacher, Alberta School for the Deaf, Edmonton, Alberta

STUMP, JOANNE
MA: CSUN-1976, NLTP
Teacher, Mackay Center for Deaf and Crippled Children, Montreal, Quebec

COLORADO

HOLLAND, MICHAEL A.
MA: CSUN-1972, TPP
Teacher, Colorado School for the Deaf and Blind, Colorado Springs

RHOTEN, DONALD E.
MA: CSUN-1977, NLTP
Principal, Colorado School for the Deaf and Blind, Colorado Springs

SCHEPPACH, VAN K.
MA: CSUN-1978, NLTP
Program Supervisor, Center on Deafness, Denver

WHITT, ALONZO
MA: CSUN-1976, NLTP
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CONNECTICUT

BRASEL, BARBARA (BABBINI)
MA: CSUN-1969, NLTP
Executive Director, Commission on Deaf and Hearing-Impaired, Hartford

COOPER, WENDY T.
MA: CSUN-1976, ETP
Teacher, American School for the Deaf, West Hartford

DARBY, ALBERT W.
MA: CSUN-1977, NLTP
Assistant Principal, American School for the Deaf, West Hartford

MOW, SHANNY
MA: CSUN-1977, NLTP
National Theatre for the Deaf, Waterford

SLINKO, ORA
MA: CSUN-1972, TPP
Teacher, American School for the Deaf, West Hartford

ZEMAITIS, REGINA
MA: CSUN-1974, TPP
Teacher, American School for the Deaf, West Hartford

DISTRICT OF COLUMBIA

BERKE, LARRY J.
MA: CSUN-1975, ETP
Teacher, Model Secondary School for the Deaf, Gallaudet College, Washington

COUTHEN, ALBERT J.
MA: CSUN-1975, NLTP
Program Director, Kendall Demonstration Elementary School, Washington

(DISTRICT OF COLUMBIA, Continued)

COUTHEN, NATHIE L.
MA: CSUN-1976, ETP
Teacher, Kendall Demonstration Elementary School, Washington

DICHTER, JEFF
MA: CSUN-1978, TPP
Teacher, Gallaudet College, Washington

GUSTASON, GERILEE
MA: CSUN-1968, NLTP
Ph.D: University of Southern California, 1972
Assistant Professor, Education, Gallaudet College, Washington

HAIRSTON, ERNEST E.
MA: CSUN-1967, NLTP
Education Program Specialist, Media Services and Captioned Films, U.S. Office of Education, Department of HEW, Washington

HARLAN, BARRY P.
MA: CSUN-1975-ETP
Teacher, Kendall Demonstration Elementary School, Washington

NOMELAND, RONALD E.
MA: CSUN-1970, NLTP
Ph.D: Syracuse University, 1973
Director, Educational Technology Division, Kendall School, Gallaudet College, Washington

PADDEN, AGNES M.
MA: CSUN-1973, ETP
Teacher, Preparatory English, Gallaudet College, Washington

QUINN, THOMAS M.
MA: CSUN-1975, TPP
Teacher, Model Secondary School for the Deaf, Washington

RODRIQUEZ, RAYMOND
MA: CSUN-1967, NLTP
Assistant Professor, Gallaudet College, Washington

DISTRICT OF COLUMBIA (Continued)

SMITH, LINWOOD D., JR.
MA: CSUN-1971, NLTP
Educational Therapist, St. Elizabeth's Hospital, Washington

SPELLMAN, JOHN F.
MA: CSUN-1972, NLTP
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STEVENS, BARBARA L.
MA: CSUN-1973, ETP; 1975, NLTP-DB
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Gallaudet College, Washington

FLORIDA

BUTLER, RAYMOND
MA: CSUN-1966, NLTP
Vocational Supervising Teacher, Florida School for the Deaf and the Blind, St. Augustine

DRAKE, DONNA F.
MA: CSUN-1978, NLTP
Supervisor Teacher, Florida School for the Deaf and the Blind, St. Augustine

SAMUELS, JOHNNY L.
MA: CSUN-1975-TPP
Teacher, Florida School for the Deaf and the Blind, St. Augustine

WARDEN, JUDY
MA: CSUN-1978, TPP
Teacher, Florida School for the Deaf and the Blind, St. Augustine

GEORGIA

RINALDI, ANNA MARIE
MA: CSUN-1972, TPP; 1973, NLTP
Coordinator, Adult Education, Atlanta Area School for the Deaf, Clarkston

GUAM

CABRERA, CARMEN V.
MA: CSUN-1978, ETP
Teacher, Department of Education, Agana

CABRERA, EDWARD A.
MA: CSUN-1978, ETP
Teacher, Department of Education, Special Education Division, Agana

HAWAII

MURRAY, TANA L.
MA: CSUN-1976, TPP
Teacher, Hawaii School for the Deaf and Blind, Honolulu

ILLINOIS

ANDERSON, ROBERT R.
MA: CSUN-1967, NLTP
Associate Principal, Illinois School for the Deaf, Jacksonville

(ILLINOIS, Continued)

BABB, RICHARD L.
MA: CSUN-1969, NLTP
Doctoral Student, University of Illinois, Champaign/Urbana

GRIFFITH, ROBERT E.
MA: CSUN-1973, NLTP
Program Specialist, Illinois Vocational Rehabilitation, Springfield

HUNTER, CHRISTOPHER
MA: CSUN-1972, NLTP
Coordinator, William Rainey Harper College, Palatine

NAGY, MARK M.
MA: CSUN-1974, TPP
Teacher, Illinois School for the Deaf, Jacksonville

NEWBERRY, FREDERICK
MA: CSUN-1975, TPP
Teacher, Whitney Young High School, Chicago

INDIANA

ELKINS, EARL
MA: CSUN-1977, NLTP
Director of Deaf Services, Central State Hospital, Indianapolis

WEST, KAY E.
MA: CSUN-1972, TPP
Teacher, Indiana School for the Deaf, Indianapolis

IOWA

WHITT, SUSAN (SCHULTZ)
MA: CSUN-1977, TPP
Teacher, Iowa School for the Deaf, Council Bluffs

KANSAS

JONES, MARY PAT
MA: CSUN-1974, TPP
Teacher, Wichita Public School, Wichita

KENTUCKY

WASSERMAN, STEVEN
MA: CSUN-1977, TPP
Teacher, Kentucky School for the Deaf, Danville

LOUSIANA

BOLTZ, ROBERT H.
MA: CSUN-1972, NLTP
Principal, Jefferson Parish Public Schools, Gretna

CORSON, HARVEY J.
MA: CSUN-1970, NLTP
Ed.D.: University of Cincinnati, 1974
Superintendent, Lousiana State School for the Deaf, Baton Rouge

MYERS, DAVID W.
MA: CSUN-1969, NLTP
State Coordinator of Services to the Deaf, Baton Rouge

MAINE

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NEW MEXICO

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PENNSYLVANIA

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Printer, Benjamin Enterprises, Philadelphia

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TEXAS

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VIRGINIA

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WISCONSIN

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